

AD A056526

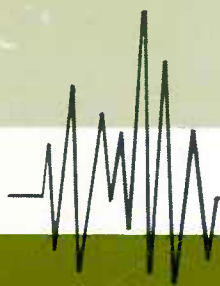
**FINAL REPORT**

**TASK 2**

**DEFINITIZE AND PREPARE OFF-THE-SHELF (OTS)  
ELECTRONIC TEST EQUIPMENT (ETE) SPECIFICATIONS**

**July 1978**

Prepared for  
TMOE DIVISION  
DIRECTORATE OF MAINTENANCE  
U.S. ARMY COMMUNICATIONS AND ELECTRONICS  
MATERIEL READINESS COMMAND  
FORT MONMOUTH, NEW JERSEY 07703  
under Contract DAEA 18-72-A-0005  
Delivery Order BG-02



**ARINC** RESEARCH CORPORATION

This document has been approved  
for public release and sale; its  
distribution is unlimited.

78 07 17 032

FINAL REPORT

TASK 2

DEFINITIZE AND PREPARE OFF-THE-SHELF (OTS)  
ELECTRONIC TEST EQUIPMENT (ETE) SPECIFICATIONS

July 1978

Prepared for

TMDE Division  
Directorate of Maintenance  
U.S. Army Communications and Electronics  
Materiel Readiness Command  
Fort Monmouth, New Jersey 07703

under Contract DAEA 18-72-A-0005  
Delivery Order BG-02

by

Larry J. Graham  
Albert L. Simmons  
Benjamin F. Paiz

ARINC Research Corporation  
a Subsidiary of Aeronautical Radio, Inc.  
2551 Riva Road  
Annapolis, Maryland 21401  
Publication 1076-01-3-1770

78 07 17 03 2

Copyright © 1978

ARINC Research Corporation

Prepared under Contract DAEA 18-72-A-0005,  
which grants to the U.S. Government a  
license to use any material in this pub-  
lication for Government purposes.

## FOREWORD

Under a contract starting 28 September 1977, ARINC Research Corporation provided non-personal services to the U.S. Army Communications and Electronics Materiel Readiness Command (CERCOM) to definitize specifications for families of off-the-shelf (OTS) electronic test equipment (ETE). The contract was issued by the Electronics Systems Procurement Branch, Procurement and Production Directorate, U.S. Army Electronics Command, Fort Monmouth, N.J. This report represents the results of that contract effort.

ARINC Research Corporation wishes to acknowledge the invaluable assistance provided by many individuals in the U.S. Army Communications and Electronics Materiel Readiness Command. In particular, we wish to express our appreciation to Mr. Robert Both of the Directorate of Maintenance, TMDE Division, and Mr. Ralph Allorca and Mr. William Orloff of the Logistics Engineering Directorate. We also thank Mr. James A. Carter, Chief TMDE Division, for his interest and guidance during the study.



## ABSTRACT

ARINC Research Corporation is under contract to definitize previously developed Off-the-Shelf (OTS) Electronic Test Equipment (ETE) Specifications by converting them into full Military Specifications. The specifications are then to be used by the U.S. Army Communications and Electronics Materiel Readiness Command (CERCOM) in competitive evaluation and procurement of OTS ETE to replace appropriate U.S. Army items of general purpose Test, Measurement, and Diagnostic Equipment (TMDE). This effort encompasses two basic contract tasks. The results of Task 1 and Subtasks 2A and 2B were reported in ARINC Research Publication 1076-01-1-1698, December 1977, and 1076-01-2-1720, March 1978, respectively. This Task 2 Final Report (Subtask 2E) presents the conclusions and recommendations of the study and specifically addresses the results of Subtasks 2C and 2D.

## SUMMARY

ARINC Research Corporation is under contract to definitize previously developed Off-the-Shelf (OTS) Electronic Test Equipment (ETE) Specifications by converting them into full Military Specifications. The specifications are then to be used by the U.S. Army Communications and Electronics Materiel Readiness Command (CERCOM) in competitive evaluation and procurement of OTS ETE to replace appropriate U.S. Army items of general purpose Test, Measurement, and Diagnostic Equipment (TMDE). This effort encompasses two basic contract tasks. The results of Task 1 and Subtasks 2A and 2B were reported in ARINC Research Publication 1076-01-1-1698, December 1977, and 1076-01-2-1720, March 1978, respectively. This Task 2 Final Report (Subtask 2E) presents the conclusions and recommendations of the study and specifically addresses the results of Subtasks 2C and 2D.

The objective of Subtask 2C was to convert nine OTS ETE Specifications into Military (OTS ETE) Specifications. On the basis of the combined review and analysis effort of ARINC Research Corporation and CERCOM, this conversion process resulted in the development of seven Military (OTS ETE) Specifications as shown in Table S-1. Two of the OTS ETE Specifications (Signal Generator, UHF-A, and Signal Generator, VHF-A) were removed from further consideration by CERCOM. The seven Military Specifications are presented in this report as Appendixes A through G.

In Subtask 2D, a two-part TMDE Cross-Reference List (TCRL) was developed to identify the various makes and models of U.S. Army Inventory TMDE that had the potential for replacement by the seven Military (OTS ETE) Specifications. The TCRL is presented in this report as Appendix J.

The contract effort produced the following recommendations:

- In future studies of this nature, primary data sources for technical parameters should be emphasized over secondary sources. Technical manuals, either military or commercial, appear to offer the best data source.
- The sample size of OTS ETE makes and models should be increased, and obsolete or duplicate Army inventory TMDE should be eliminated from consideration. This action will increase OTS ETE representation and simplify the study effort without reducing the quality of the data for the Army inventory TMDE.

Table S-1. CONVERSION OF OTS ETE SPECIFICATIONS TO MILITARY (OTS ETE) SPECIFICATIONS

Original Name of OTS ETE Specification	Number	New Military (OTS ETE) Specification Name	Appendix	Remarks
Bridge, Universal	25	Bridge, Universal	A	Requirement deleted by CERCOM
Signal Generator, Function	2	Generator, Signal, Function	B	
Signal Generator, Pulse	4	Generator, Signal, Pulse	C	
Signal Generator, UHF-A	15			
Signal Generator, UHF-B	16	Generator, Signal, UHF	D	Requirement deleted by CERCOM
Signal Generator, VHF-A	17			
Signal Generator, VHF-B	18	Generator, Signal, VHF	E	
Stroboscope	95	Stroboscope	F	
Voltmeter, Differential	38	Voltmeter, Differential	G	

- Changes required by CERCOM and identified as potentially restricting competition should be closely examined and, wherever possible, the original ARINC Research recommendation should be followed in order to enhance competition. Further, the requirement for a flash characteristic of 60 to 150,000 flashes per minute for the Stroboscope should be reviewed and validated. As the requirement is now stated, it cannot be met by any OTS ETE known to ARINC Research.
- The seven Military (OTS ETE) Specifications included in this report represent the combined efforts of CERCOM and ARINC Research Corporation and should be tested in the acquisition process to meet U.S. Army TMDE requirements. In addition, the specifications should be provided to the ETE industry and other DoD activities for review and comment.

## CONTENTS

	<u>Page</u>
FOREWORD . . . . .	iii
ABSTRACT . . . . .	v
SUMMARY . . . . .	vii
CHAPTER ONE: INTRODUCTION . . . . .	1-1
1.1 Background . . . . .	1-1
1.2 Study Objectives . . . . .	1-1
1.3 Overview of Work Performed . . . . .	1-1
1.3.1 Task 1: Establish Project Data Base Structure . . . . .	1-2
1.3.2 Task 2: Definitize and Prepare Specifications . . . . .	1-4
1.4 Report Organization . . . . .	1-6
CHAPTER TWO: STUDY APPROACH . . . . .	2-1
2.1 Subtask 2C: Definitize OTS ETE Specifications . . . . .	2-1
2.2 Subtask 2D: Develop Cross-Reference List . . . . .	2-2
2.3 Subtask 2E: Prepare Task 2 Final Report . . . . .	2-3
CHAPTER THREE: RESULTS . . . . .	3-1
3.1 Definitization and Preparation of Specifications . . . . .	3-1
3.2 Development of TMDE Cross-Reference List . . . . .	3-2
CHAPTER FOUR: CONCLUSIONS AND RECOMMENDATIONS . . . . .	4-1
4.1 Conclusions . . . . .	4-1
4.2 Recommendations . . . . .	4-2
APPENDIX A: MILITARY (OTS ETE) SPECIFICATION, BRIDGE, UNIVERSAL . . . . .	A-1
APPENDIX B: MILITARY (OTS ETE) SPECIFICATION, GENERATOR, SIGNAL, FUNCTION . . . . .	B-1
APPENDIX C: MILITARY (OTS ETE) SPECIFICATION, GENERATOR, SIGNAL, PULSE . . . . .	C-1
APPENDIX D: MILITARY (OTS ETE) SPECIFICATION, GENERATOR, SIGNAL, UHF . . . . .	D-1

CONTENTS (continued)

	<u>Page</u>
APPENDIX E: MILITARY (OTS ETE) SPECIFICATION, GENERATOR, SIGNAL, VHF . . . . .	E-1
APPENDIX F: MILITARY (OTS ETE) SPECIFICATION, STROBOSCOPE . . . . .	F-1
APPENDIX G: MILITARY (OTS ETE) SPECIFICATION, VOLTMETER, DIFFERENTIAL . . . . .	G-1
APPENDIX H: COMPUTER PRINTOUT NUMBER 7: "DEFINITIZATION OF OTS ETE SPECIFICATIONS PARAMETER DATA" . . . . .	H-1
APPENDIX I: COMPUTER PRINTOUT NUMBER 8: "PARAMETER DATA FOR MILITARY (OTS ETE) SPECIFICATIONS" . . . . .	I-1
APPENDIX J: TMDE CROSS-REFERENCE LIST . . . . .	J-1

## CHAPTER ONE

### INTRODUCTION

#### 1.1 BACKGROUND

ARINC Research Corporation is under contract to provide non-personal services to the U.S. Army Communications and Electronics Materiel Readiness Command (CERCOM) to definitize specifications for families of Off-the-Shelf (OTS) Electronic Test Equipment (ETE). The contract (DAEA 18-72-A-0005, Delivery Order BG-02), a basic ordering agreement, was issued by the Electronic Systems Procurement Branch, Procurement and Production Directorate, U.S. Army Electronics Command, Fort Monmouth, New Jersey. The contract effort was started on 28 September 1977.

Data Item A003 of the contract Data Requirements List (DD Form 1423) provides for the submittal of a final report upon completion of all tasks. This report, submitted in compliance with that requirement, summarizes the results of the completed study and the specific activities of Subtasks 2C, 2D, and 2E.

#### 1.2 STUDY OBJECTIVES

The objective of the program is to convert ARINC Research OTS ETE Specifications into full Military Specifications that can be used by CERCOM for competitive evaluation and procurement of off-the-shelf (OTS) electronic test equipment (ETE) to replace, as appropriate, U.S. Army items of general purpose Test, Measurement, and Diagnostic Equipment (TMDE).

The specific project objectives are as follows:

- Identify Army TMDE inventory salient features and OTS ETE features, including those which enhance the test and measurement capabilities of the U.S. Army.
- Following identification of all approved features, prepare comprehensive Military Specifications that can be used by CERCOM for competitive evaluation and procurement of OTS ETE.

#### 1.3 OVERVIEW OF WORK PERFORMED

The work to be performed consists of two basic contract tasks. This final report presents the conclusions and recommendations of the study and

specifically addresses the results of Subtasks 2C, 2D, and 2E. Brief outlines of Task 1 and Task 2 are presented in the following subsections, together with a summary of the accomplishments of each subtask.

#### 1.3.1 Task 1: Establish Project Data Base Structure

The objective of Task 1 was to design and establish the structure of the data base that would be used in all subsequent tasks. Six subtasks were performed:

- 1A - Identify Technical Characteristics of TMDE
- 1B - Develop Functional Index of OTS ETE Manufacturers and their products
- 1C - Identify TMDE Data Sources
- 1D - Identify TMDE Families that Require Group Analysis
- 1E - Develop Data Formats for Computer Printouts
- 1F - Prepare Task 1 Report

##### 1.3.1.1 Subtask 1A: Identify Technical Characteristics of TMDE

Technical parameters and associated codes that describe in detail the technical characteristics of TMDE were identified. They were encoded to facilitate display of the technical parameters of the TMDE.

##### 1.3.1.2 Subtask 1B: Develop Functional Index of OTS ETE Manufacturers and their Products

A functional index of OTS ETE manufacturers reflecting the type of ETE currently offered was developed. The required information was extracted from the literature of more than 250 ETE manufacturers currently on file at ARINC Research Corporation; it was encoded and displayed in a computer printout.

##### 1.3.1.3 Subtask 1C: Identify TMDE Data Sources

The TMDE assigned to each family included in Task 2 was identified to CERCOM early in the contract. CERCOM designated and provided as Government Furnished Material (GFM) a military procurement specification, technical manual, or other data source that described in detail the technical characteristics of each of the TMDE. Only one data source was used for each TMDE. The data sources were cataloged and encoded for display as a computer printout.

Table 3-2 of the Task 1 Technical Report was originally published with incomplete data. This table has been reprinted in this report as Table 1-1, with all data entries complete. It shows the number of documents received for each TMDE family vs. the number of TMDE assigned and indicates whether



Table 1-1. SUMMARY OF PRIMARY SOURCE DOCUMENTS BY TMDE FAMILIES

TMDE Family Names	Number of TMDE Assigned to Each TMDE Family	Number of Documents Received	Types of Source Documents Received			
			Primary Source		Secondary Source	
			MIL-STD (Specification)	Technical Manual	JETDS File	DA PAM 700-20 and 700-21
Bridge, Universal	33	31	3	3	4	21
Capacitor Test Set	16	14	2	1	3	8
Impedance Meter	10	10	6	1	0	3
Inductance Meter	4	4	2	0	0	2
Signal Generator Function	20	19	5	1	5	8
Signal Generator Pulse	49	44	4	5	12	23
Signal Generator Square Wave	13	12	0	0	8	4
Signal Generator UHF	28	28	0	0	11	17
Signal Generator VHF	51	45	0	0	21	24
Stroboscope	7	7	0	0	5	2
Voltmeter, Differential	15	15	0	0	3	12
Total	246	229	22	11	72	124

the documents are those in which the technical parameters of the instrument were originally listed. Secondary sources are those which are derived from the primary and are normally abbreviated and condensed for filing. Table 1-1 shows that only 33 of the 229 documents received (Military Standards and Technical Manuals) were from primary sources.

1.3.1.4 Subtask 1D: Identify TMDE Families that Require Group Analysis

Subtask 1D identified all groups of TMDE families that required analysis among different types of TMDE. For example, the Signal Generator Group comprises the following TMDE families: Signal Generators HF, VHF, UHF, and SHF. These TMDE must be analyzed together as well as individually to permit proper partitioning of the TMDE families with respect to the capabilities of OTS ETE and the requirements of Army general purpose TMDE.

1.3.1.5 Subtask 1E: Develop Data Formats for Computer Printouts

In Subtask 1E the required computer data input and output formats were developed.

1.3.1.6 Subtask 1F: Prepare Task 1 Report

The results of Subtasks 1A, 1B, 1C, 1D, and 1E were documented for inclusion in the Task 1 Final Report (ARINC Research Publication 1076-01-1-1693, December 1977), which is a companion document to this report.

1.3.2 Task 2: Definitize and Prepare Specifications

The overall objective of Task 2 was to definitize the OTS ETE Specifications for those TMDE families assigned to Task 2. This task was divided into five subtasks:

- 2A - Encode Technical Characteristics
- 2B - Review and Analyze Technical Characteristics
- 2C - Definitize OTS ETE Specifications
- 2D - Develop Cross-Reference List
- 2E - Prepare Task 2 Final Report

1.3.2.1 Subtask 2A: Encode Technical Characteristics

The technical characteristics of the appropriate OTS ETE Specifications, commercially available OTS ETE, and the Army inventory TMDE were encoded for subsequent display in various computer printouts. These printouts permitted direct comparison of the equipment in terms of the technical characteristics derived from the three sources. The development and purpose of the computer printouts are described in the Task 1 Final Report.

During the encoding of the OTS ETE and the U.S. Army Inventory TMDE, two areas of concern were noted. First, the sample size of the OTS ETE should be increased from 5 to 10 (whenever possible) so as to obtain a more comprehensive representation of what is available on the commercial market. Second, considerable time was spent in coding Army Inventory TMDE that were obsolete (according to SB 700-20) or duplicate. The problem of encoding duplicate instruments is exemplified by the encoding of three models of the ZM-4 series (ZM-4, ZM-4A, and ZM-4B). All three are functionally the same and interchangeable; therefore, only the ZM-4B should have been coded. Following this approach would not have had any impact on the study results and would have simplified the review and analysis process.

#### 1.3.2.2 Subtask 2B: Review and Analyze Technical Characteristics

The objective of Subtask 2B was to ensure the completeness of the OTS ETE Specifications. This was accomplished by using the data compiled in Subtask 2A and by identifying and documenting those technical characteristics which are available in commercial OTS ETE but were not included in the OTS ETE Specifications. Further, the technical characteristics of Army inventory TMDE were analyzed to determine whether there were technical characteristics that might be required by the Army but were not specified in the OTS ETE Specifications.

A report of the findings, conclusions, and recommendations resulting from these comparative analysis activities was prepared for each OTS ETE Specification and for TMDE family groups, as applicable. Group analysis of TMDE families is described in Subtask 1D of the Task 1 Final Report. In Task 2, the TMDE in Signal Generator UHF and VHF TMDE families were analyzed collectively. The results of Subtasks 2A and 2B were reported in ARINC Research Publication 1076-01-2-1720, dated March 1978, which is a companion document to this report.

#### 1.3.2.3 Subtask 2C: Definitize OTS ETE Specifications

On the basis of the CERCOM review of the Subtask 2A and 2B report, the original OTS ETE Specifications as encoded in Subtask 2A were changed as required to reflect the comments resulting from the review. Military specifications for OTS ETE were then prepared from these data by using the format provided by CERCOM.

#### 1.3.2.4 Subtask 2D: Develop Cross-Reference List

On the basis of the data reviewed, analyzed, and definitized in previous subtasks, a computer-generated cross-reference list was developed to correlate the Joint Electronics Type Designator (JETD) or manufacturer's model number of Army General Purpose TMDE with the associated military (ETE) specification(s) included in Task 2.

#### 1.3.2.5 Subtask 2E: Prepare Task 2 Final Report

This final report was prepared to present the results of Subtasks 2C and 2D and the conclusions and recommendations of the entire study. The

computer printouts, "Parameter Data of OTS ETE" and "Parameter Data of U.S. Army TMDE", originally intended for presentation in this report, were previously submitted as Appendixes K and L of the Task 2B Report.

#### 1.4 REPORT ORGANIZATION

Chapter One has presented the study background and objectives. Chapters Two and Three describe, respectively, the study approach and the results of Subtasks 2C and 2D. Chapter Four presents the conclusions and recommendations. Ten appendixes document the results of the study:

- Appendix A - Military (OTS ETE) Specification, Bridge, Universal
- Appendix B - Military (OTS ETE) Specification, Generator, Signal, Function
- Appendix C - Military (OTS ETE) Specification, Generator, Signal, Pulse
- Appendix D - Military (OTS ETE) Specification, Generator, Signal, UHF
- Appendix E - Military (OTS ETE) Specification, Generator, Signal, VHF
- Appendix F - Military (OTS ETE) Specification, Stroboscope
- Appendix G - Military (OTS ETE) Specification, Voltmeter, Differential
- Appendix H - Computer Printout Number 7: "Definitization of OTS ETE Specifications Parameter Data"
- Appendix I - Computer Printout Number 8: "Parameter Data for Military (OTS ETE) Specifications"
- Appendix J - TMDE Cross-Reference List

## CHAPTER TWO

### STUDY APPROACH

#### 2.1 SUBTASK 2C: DEFINITIZE OTS ETE SPECIFICATIONS

ARINC Research Publication 1076-01-2-1720, *Review and Analysis of Technical Characteristics for the Definitization of Specifications for Families of Off-the-Shelf (OTS) Electronic Test Equipment ETE* (March 1978), contained a separate appendix for each OTS ETE specification included in this study. The specification names and numbers are listed in Table 2-1.

Table 2-1. OTS ETE SPECIFICATIONS	
Name	Number
Bridge, Universal	25
Signal Generator, Function	2
Signal Generator, Pulse	4
Signal Generator, UHF-A	15
Signal Generator, UHF-B	16
Signal Generator, VHF-A	17
Signal Generator, VHF-B	18
Stroboscope	95
Voltmeter, Differential	38

Each appendix of Publication 1076-01-2-1720 has five sections containing the results of the detailed review and analysis of each technical parameter applicable to a specific OTS ETE Specification:

- Introduction and Instructions. The procedure for documenting the review process is described, with space provided for CERCOM comments.
- Identification Data. All data applicable to the detailed identification of a specific OTS ETE Specification are presented.

- Summary of Recommendations. The results of the review and analysis of each technical parameter encoded are summarized.
- Detailed Review and Analysis. The detailed findings, conclusions, and recommendations of the review and analysis for each technical parameter encoded are presented.
- Supporting Data. A computer printout is presented for the specific OTS ETE Specification being considered; it provides the data source from which the detailed review and analyses were made.

These appendixes were structured to permit CERCOM to review the data, rationale, and recommendations for each technical parameter considered in the analysis, and to make direct comments related to each parameter. The following is a sample of the format used in the "Detailed Review and Analysis" section:

<u>Parameter Number</u>	<u>Parameter Name</u>
00140	POWER SOURCE/CONSUMPTION
Narrative:	The majority of OTS ETE are common with the OTS ETE Specification, with two (2) items being battery-powered. The TMDE also lists two types of power sources.
Conclusion:	Since the equipment to be procured under the OTS ETE Specification is not intended for field use, the battery power source does not offer any increased capability.
Recommendation:	Retain as specified
CERCOM Comments:	_____
	_____

On the basis of CERCOM's review of each appendix and its specific comments related to each parameter, Military (OTS ETE) Specifications reflecting the technical capability of OTS ETE or the requirements of the Army were provided. The specification format used was based on MIL-T-28800 as provided by CERCOM.

## 2.2 SUBTASK 2D: DEVELOP CROSS-REFERENCE LIST

The TMDE Cross-Reference List (TCRL) is intended as a guide for identifying initially Military (OTS ETE) Specifications that are "functionally compatible" or "partially compatible" with U.S. Army Inventory TMDE. The technical parameters for each U.S. Army Inventory TMDE in Task 2 were compared with the major technical parameters of the applicable Military (OTS ETE) Specification(s) developed in Subtask 2C, and it was determined whether



the TMDE parameters were "functionally compatible" or "partially compatible". Applicable data were then encoded. The two types of compatibility are described as follows:

- *Functionally compatible* implies that the technical parameters of the TMDE are within the range of the technical parameters of the identified Military (OTS ETE) Specification.
- *Partially compatible* implies that the technical parameters of the TMDE are only partially within the range of the technical parameters of the identified Military (OTS ETE) Specification(s) and that more than one specification is required to provide full compatibility.

The analysis and subsequent encoding resulted in the following listings for the two-part TCRL:

- Part I - OTS ETE Specification to U.S. Army General Purpose TMDE.\*  
Part I is an alphabetical listing of Military (OTS ETE) or OTS ETE Specifications correlated with the U.S. Army Inventory TMDE that are either functionally compatible or partially compatible with each Specification.
- Part II - U.S. Army General Purpose TMDE to OTS ETE Specifications.  
Part II is an alphanumeric listing, by type designator or manufacturer's model number, of each U.S. Army Inventory TMDE considered in the analysis; it indicates, by Military (OTS ETE) or OTS ETE Specification number, whether the TMDE is functionally or partially compatible (or a combination thereof).

The data presented in the TCRL should be considered representative of the potential of each Military (OTS ETE) Specification for replacing general purpose TMDE in the U.S. Army. It can serve as the starting point for estimating cost savings that can be realized from the CERCOM standardization program.

### 2.3 SUBTASK 2E: PREPARE TASK 2 FINAL REPORT

This final report was prepared to present the findings, conclusions, and recommendations of the study.

---

\*The TCRL contains, in addition to cross-reference data for the Military (OTS ETE) Specifications developed during this study, data related to the remaining 91 OTS ETE specifications developed under a previous contract. Therefore, the title "OTS ETE Specification....." for Part I and Part II has been retained.

## CHAPTER THREE

### RESULTS

#### 3.1 DEFINITIZATION AND PREPARATION OF SPECIFICATIONS

On the basis of the comments provided by CERCOM in response to ARINC Research Publication 1076-01-2-1720 (March 1978), the seven Military (OTS ETE) Specifications shown in Table 3-1 were prepared in the format specified. The specifications are presented in Appendixes A through G of this report.

Table 3-1. MILITARY (OTS ETE) SPECIFICATIONS	
Specification Name	Appendix
Bridge, Universal	A
Generator, Signal, Function	B
Generator, Signal, Pulse	C
Generator, Signal, UHF	D
Generator, Signal, VHF	E
Stroboscope	F
Voltmeter, Differential	G

Originally there were nine OTS ETE Specifications to be converted to Military (OTS ETE) Specifications. However, CERCOM has elected not to definitize two of the OTS ETE Specifications -- Signal Generator, UHF-A; and Signal Generator, VHF-A.

The revised Computer Printouts, Numbers 8 and 9, are presented in Appendixes H and J, respectively. These printouts, described in the Task 1 report, include all of the technical parameter changes confirmed or requested by CERCOM.

All changes to the original OTS ETE specifications recommended by ARINC Research and agreed to by CERCOM, as well as those changes specifically requested by CERCOM, were incorporated into the Military (OTS ETE)



Specifications. Three of the changes requested that require further review by CERCOM are described in Table 3-2, which shows the parameter code and name, the recommendation for the parameter made by ARINC Research, and the change required by CERCOM.

Table 3-2. CERCOM CHANGES THAT HAVE A POTENTIAL IMPACT ON COMPETITION			
Military (OTS ETE) Specification	Parameter Code	Parameter Name	ARINC Research Recommendation and Change Required by CERCOM
Bridge, Universal	59600	Resistance Measurement	Recommended: 10 ohms to 12 megohms. Changed to: 10 ohms to 50 megohms.
Stroboscope	24400	Flash Characteristics	Recommended: 110 to 25,000 flashes per minute. Changed to: 60 to 150,000 flashes per minute.
Voltmeter, Differential	26650	Frequency Range	Recommended: 5 Hz to 5 kHz. Changed to: 5 Hz to 100 kHz.

The data shown for comparative analysis in Appendix H for each of the specifications and technical parameters in Table 3-2 suggest two problems. First, the changes required by CERCOM for two devices -- the Bridge, Universal; and the Voltmeter, Differential -- limit competition to one make or model of OTS ETE. Second, there are no makes or models of Stroboscope listed that accommodate the change required by CERCOM for flash characteristics.

### 3.2 DEVELOPMENT OF TMDE CROSS-REFERENCE LIST

The two-part TMDE Cross-Reference List (TCRL) is presented in this report as Appendix J. Table 3-3 summarizes the number of "Functionally Compatible" and "Partially Compatible" TMDE, by separate make and model, that have the potential for replacement by each Military (OTS ETE) Specification.

It should be noted that the number of TMDE listed for each OTS ETE specification (Table 3-3) equals or exceeds the number of Army inventory TMDE initially assigned to a TMDE Family (Table 1-1). There are several reasons for this disparity. During the analysis of TMDE during Task 2, it was discovered that a few TMDE had been initially assigned to the wrong family, and reassignment to the correct family was necessary. Further, the deletion of the two OTS ETE specifications by CERCOM has caused the movement of UHF and VHF instruments between families. Finally, in the Partially Compatible portion of the TCRL, there are several instruments from TMDE families (e.g., Signal Generator HF and SHF) that are not definitized in this report.

Table 3-3. TCRL SUMMARY		
Military (OTS ETE) Specification	Number of Makes or Models	
	Functionally Compatible	Partially Compatible
Bridge, Universal	39	16
Generator, Signal, Function	28	8
Generator, Signal, Pulse	31	18
Generator, Signal, UHF	13	6
Generator, Signal, VHF	48	23
Stroboscope	2	5
Voltmeter, Differential	12	8

## CHAPTER FOUR

### CONCLUSIONS AND RECOMMENDATIONS

#### 4.1 CONCLUSIONS

A review of Table 1-1 in Chapter One shows that the source documents for the U.S. Army technical parameters were derived essentially from secondary sources for more than 85 percent of the Army Inventory TMDE included in the study; that is, the total of 196 for the columns "JETDS FILE" (72) and the "DA PAM 700-20 and 700-21" (124) divided by the total "Number of Documents Received" (229) equals 85.5 percent of the data source documents. Thus the great majority of technical parameters for U.S. Army Inventory TMDE were obtained from abbreviated and condensed files (secondary sources) that could also contain translation errors. Further, key characteristics could have been missing or reduced in importance. These factors could produce misleading study results.

The sample size of OTS ETE, limited by the statement of work, should be increased from 5 to 10 whenever possible in any future studies of this nature. The larger sample will allow greater representation of the commercial market and a more accurate illustration of the salient features of each TMDE family. It should also more clearly identify unique features of the instrument that meet or exceed U.S. Army requirements.

U.S. Army Inventory TMDE that are obsolete (as identified by SB 700-20 or other authoritative documents) should be eliminated from future studies of this type. Duplicate makes or models that are functionally the same and interchangeable should also be eliminated. This approach would not affect the study results, and it would simplify the review and analysis process.

The changes required by CERCOM for the three Military (OTS ETE) specifications, as shown in Table 3-2, may restrict competition. For one of the three -- the Stroboscope Flash Characteristic -- a search of ARINC Research Corporation's extensive OTS ETE files has not identified an OTS ETE that can meet the stated requirement.

#### 4.2 RECOMMENDATIONS

In future studies of this nature, primary data sources for technical parameters should be emphasized over secondary sources. Technical manuals (military or commercial) appear to offer the best data source.

The sample size of OTS ETE makes and models should be increased, and obsolete or duplicate Army inventory TMDE should be eliminated from consideration. This action will increase OTS ETE representation and simplify the study effort without reducing the quality of the data for the Army inventory TMDE.

Changes required by CERCOM (listed in Table 3-2) identified as potentially restricting competition should be closely examined and, wherever possible, the original ARINC Research recommendation should be followed in order to enhance competition. Further, the requirement for a flash characteristic of 60 to 150,000 flashes per minute for the Stroboscope should be reviewed and validated. As the requirement is now stated, it cannot be met by any OTS ETE known to ARINC Research.

The seven Military (OTS ETE) Specifications included in this report represent the combined efforts of CERCOM and ARINC Research Corporation and should be tested in the acquisition process to meet U.S. Army TMDE requirements. In addition, the specifications should be provided to the ETE industry and other DoD activities for review and comment.

*APPENDIX A*

MILITARY (OTS ETE) SPECIFICATION  
BRIDGE, UNIVERSAL

Off-the-Shelf (OTS)  
Test Equipment Specification

MIL-X-XXXXX (EL)

12 April 1978

MILITARY SPECIFICATION

This specification is approved for use by the Communications Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification defines a Bridge, universal hereinafter called the equipment.

1.2 Classification. The equipment defined by this specification shall be Type II, Class 5, Style E, Color R per MIL-T-28800 and as herein with the convertible/rack-mountable capability.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on the date of invitation for bids, or the request for proposal, form a part of this specification to the extent specified herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U. S. Army Communications Research and Development Command, Fort Monmouth, New Jersey 07703 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6625

MIL-X-XXXXX (EL)

## SPECIFICATIONS

### MILITARY

MIL-T-28800	Test Equipment for Use with Electrical and Electronic Equipment, General Specification for
-------------	--

## STANDARDS

### MILITARY

MIL-STD-461	Electromagnetic Interference Characteristics, Requirements for Equipments
MIL-STD-462	Electromagnetic Interference Characteristics, Measurement of
MIL-STD-781	Reliability Tests, Exponential Distribution

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

## 3. REQUIREMENTS

3.1 Classification of requirements. The requirements for the equipment are classified as follows:

<u>REQUIREMENT</u>	<u>PARAGRAPH</u>
Safety	3.2
Parts, materials and processes	3.3
Design and construction	3.4
Electrical power sources and connections	3.5
Dimensions and weight	3.6
Enclosure requirements	3.7
Marking and identification	3.8
Environmental requirements	3.9
Reliability requirements	3.10
Performance characteristics	3.11

3.2 Safety. Unless otherwise specified herein, the equipment shall comply with the Type II safety requirements specified in MIL-T-28800.

3.3 Parts, materials and processes. Unless otherwise specified herein, the equipment shall comply with the Type II parts, materials and processes requirements of MIL-T-28800.

3.3.1 Restricted materials. Equipment shall comply with the restricted material requirements of MIL-T-28800 including the requirement for mercury or radioactive materials and shall contain no combination of materials which cause deterioration of any material contained in the equipment due to effects of outgassing.

3.4 Design and construction. Unless otherwise specified herein, the equipment shall comply with the Type II, Class 5, Style E, Color R, design and construction requirements of MIL-T-28800 with the convertible/rack-mountable capability.

3.4.1 First article. When specified, the contractor shall furnish five sample equipments for first article inspection and approval. (See 4.3 and 6.2)

3.4.2 Mainframe plug-in concept. Equipment utilizing externally accessible, externally removable subassemblies (mainframe plug-in concept) do not meet the requirements of this specification and therefore are unacceptable. Items using this concept may be offered, provided the plug-in(s) shall not be removable by access through the front panel or rear panel with the unaided hand. A system part number shall be assigned to any such mainframe plug-in combination required to meet the requirements of this specification. The system part number shall be marked on the mainframe identification plate and any plug-in(s).

3.4.3 Controls. Unless otherwise specified herein, built-in adjustments and compensating devices shall not be externally accessible.

3.4.3.1 Front panel controls. All controls which are required to operate the equipment throughout its specified performance characteristics, shall be located on the front panel.

3.4.4 Accessibility. The equipment shall be constructed so that:



3.4.4.1 Subassemblies and chassis components can be removed without removing any other hard wired subassembly, printed circuit card or component.

3.4.4.2 Adjustments can be made without removing any component, printed circuit card or subassembly except the use of extender cards is permitted.

3.4.4.3 Printed circuit cards can be removed without the need to unsolder cables and interconnecting wiring (connections to all printed circuit cards shall be through pin and socket connectors). Printed circuit cards (mother boards) designed primarily to distribute power and signals to other printed cards (daughter boards) are excluded from this requirement. When such mother-boards are used, they shall be accessible from both sides to allow maintenance testing.

3.4.4.4 Indicator lights. Unless approved by the procuring activity upon presentation of acceptable reliability data, indicator lights other than light emitting diodes (LEDs) shall be accessible from the operator's side of the front panel.

3.4.4.5 Encapsulation and embedment. Encapsulation and embedment (potting) of subassemblies shall not be used.

3.4.5 Solid State construction. Unless otherwise specified herein, the equipment shall be of solid-state, modular, miniaturized construction.

3.5 Electrical power sources and connections. Unless otherwise specified herein, the equipment shall comply with the Type II electrical power sources and connections requirements of MIL-T-28800. The equipment shall operate from a nominal 115/230 volts, single phase, 50, 60 and 400Hz source.

3.5.1 Maximum power. The maximum power consumption of the equipment shall be 15 watts.

3.5.2 Input power selection device. An input power selection device shall be provided for selection of input power voltages of 115 VAC or 230 VAC. Provision shall be incorporated to prevent accidental switching. When the equipment is delivered, the power selection device shall be in the 115 VAC position.

3.5.3 Fuses and circuit breakers. Fuses and circuit breakers shall be in accordance with MIL-T-28800. (115VAC/230VAC) Either common or separate fuseholders may be provided. If only one fuseholder is used (common), the equipment shall be provided with the 115VAC fuse installed and the 230VAC fuse shall be stowed with the accessories.

3.5.4 Input power switch. A front panel mounted power switch shall be provided. The ON position shall have panel identification lights for AC operation. The switch shall break both sides of the power source.

3.6 Dimensions and weight.

3.6.1 Dimensions. The overall dimensions shall be 317.5mm (12.50 in) maximum height, 292.1mm (11.50 in) maximum depth and the width of 482.6mm (19 in) as specified in MIL-T-28800 for rack-mounted equipment. A blank plate may be required to satisfy incremental height requirements.

3.6.2 Weight. The maximum weight of the equipment shall be 17KG (37 lbs).

3.7 Enclosure requirements. Unless otherwise specified herein, the equipment shall comply with the Style E enclosure requirements of MIL-T-28800.

3.8 Marking and identification. Unless otherwise specified herein, the equipment shall comply with the Type II marking and identification requirements of MIL-T-28800.

3.8.1 Supplemental identification plate. The supplemental identification plate specified in MIL-T-28800 shall contain the following data only:

- a. Nomenclature.
- b. Procurement instrument identification number (PIIN).
- c. Serial number
- d. National stock number.
- e. US

3.9 Environmental requirements. Unless otherwise specified herein, the equipment shall comply with the Class 5 environmental requirements of MIL-T-28800.

MIL-X-XXXXX (EL)

3.9.1 Electromagnetic interference. The equipment shall comply with the following emission and susceptibility requirements of Notice 4, MIL-STD-461.

CE02	CS02	RE02.1	RS03
CE04	CS06	RE02	

RE02.1 and RS03 shall be performed from (TBD) with RS03 at a susceptibility level of one volt per meter (1V/m).

3.9.2 Humidity. The equipment shall meet the humidity requirements in accordance with the test specified in paragraph 4.5.5.1.1.3 of MIL-T-28800.

3.9.3 Vibration. The equipment shall comply with the Class 5 vibration requirements of MIL-T-28800, except that the equipment need not be operating during vibration.

### 3.10 Reliability requirements.

3.10.1 Reliability burn-in. Each equipment delivered against this specification shall be submitted to a minimum 96-hour on-time burn-in procedure as specified in 4.4.4. The last 24 hours of burn-in shall be failure free.

3.10.2 Reliability. Reliability shall comply with requirements as specified herein. The specified MTBF shall be 3500 hours when tested as specified in 4.4.4. A failure shall be defined in MIL-STD-781, para 3.1, and as any departure from the required performance or operation of the required accuracies (not correctable by normal use of the operating controls) after the test is initiated. Test Level B, MIL-STD-781 shall be the required test level.

3.10.3 Maintainability requirements. The equipment shall comply with the Type II maintainability requirements of MIL-T-28800. (See 6.4)

### 3.11 Performance characteristics.

3.11.1 Capacitance range. The Capacitance Measurement capability shall, at a minimum, extend from 1 picofarad to 1200 microfarad in not more than 8 ranges.

3.11.1.1 DC test voltage. The equipment shall have the capability to measure for DC leakage from 0 to 500 VDC.

3.11.1.2 Dissipation factor. The equipment shall have the capability to measure the dissipation factor within the range of 0.001 to 1, with an accuracy of +/- 5 percent.

3.11.2 Inductance. The inductance measurement capability shall, at a minimum, extend from 1 microhenry to 1100 henry in not more than 8 ranges. The accuracy for each range shall not be less than  $\pm .1$  percent.

3.11.2.1 Internal signal source. The equipment shall have an internal signal source of 1KHz  $\pm 3$  percent.

3.11.2.2 External signal source. The equipment shall be capable of operation with an external signal source, at all frequencies from 50 Hz to 20KHz.

3.11.2.3 Storage factor (Q). The equipment shall have the capability to measure the storage factor (Q), within the range of 0.05 to 1000, with an accuracy of  $\pm 5$  percent.

3.11.3 Resistance measurement. The resistance measurement capabilities shall, at a minimum, extend from 10 ohms to 50 megohms.

3.11.4 Primary connectors. The primary connectors shall be the dual female banana jack.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspections required herein are classified as in a and b.

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.3).

4.3 First article and quality conformance inspection. Unless otherwise specified herein, the first article and quality conformance inspections shall be in accordance with MIL-T-28800.

4.3.1 Test plan. Unless otherwise stated in the contract, the contractor shall prepare a test plan in accordance with paragraphs 4.3(a) and 4.4(a) of MIL-T-28800, for use with both classes of inspection. The test plan shall include as a minimum the tests listed in TABLES I, II, & III, the tests noted in section 4.4, and a description of the satisfactory operation check and satisfactory operation test, as defined in para 4.5 of MIL-T-28800. Unless otherwise required, the tests and inspections to be performed shall be identical for both classes of inspection.

4.3.2 Inspection sampling plan. The inspection sampling to be performed during both classes of inspection shall be as specified in MIL-T-28800, except as indicated below:

4.3.2.1 Unless otherwise specified herein or in the contract, the Group C, D, E & F quality conformance inspections shall be performed on the first production lot only.

TABLE IExamination and Test Groups

DESCRIPTION	RQMT.	TEST METHOD
Group A Preoperational Inspection Leakage Current Level A Performance	4.5.3.1* 3.2.1.3.1* TABLE II	4.3.1
Group B Level B Performance	TABLE III	4.3.1
Group C Electrical Power Environmental Requirements Humidity Vibration	3.5 3.9 3.9.2 3.9.3	4.3.1
Group D Electromagnetic Interference	3.9.1	4.4.1
Group E Dimensions Weight Front Panel Marking	3.6.1 3.6.2 3.8	4.3.1 4.3.1
Group F Reliability	3.10	4.3.1, 4.4.4

\*Paragraphs of MIL-T-28800

MIL-X-XXXXX(EL)

TABLE II

Level A Performance Tests 1/

DESCRIPTION	REQUIREMENTS
Capacitance Range	3.11.1
Inductance	3.11.2
Resistance Measurement	3.11.3

1/ Level A testing is abbreviated testing (see 6.4.1)

TABLE III

Level B Performance Tests

DESCRIPTION	REQUIREMENTS
DC Test Voltage	3.11.1.1
Dissipation Factor	3.11.1.2
Internal Signal Source	3.11.2.1
External Signal Source	3.11.2.2
Storage Factor (Q)	3.11.2.3



4.3.2.2 The Group D EMI tests and Group F Reliability test shall be performed during quality conformance inspection only if not performed during first article or bid sampling testing.

4.4 Quality assurance tests. Unless otherwise specified herein, the following tests shall be performed in accordance with MIL-T-28800.

4.4.1 Electromagnetic interference. One equipment shall be subjected to an EMI test for compliance with the requirements of 3.9.1. All test set-ups and procedures shall comply with the measurement techniques of Notice 3, MIL-STD-462. All emission and susceptibility tests shall be performed with the output cable connected to, and extended parallel with, the front of the equipment. The output cable shall be terminated to simulate a normal loading configuration.

4.4.2 Humidity. The equipment shall be subjected to the humidity test specified in para 4.5.5.1.1.3 of MIL-T-28800.

4.4.3 Vibration. The equipment shall be subjected to the vibration tests specified in MIL-T-28800, for Class 5 equipment, except that the equipment shall not be operated during the test. The satisfactory operation test shall be performed prior to and following vibration testing.

4.4.4 Reliability. The reliability tests shall be performed as follows:

4.4.4.1 Burn-in. Each deliverable equipment shall be subjected to a minimum 96 hours on-time burn-in period, prior to Group A testing. During the last 24 hours of burn-in, the equipment must operate failure free. Up until this time, equipment will be allowed to accumulate failures. Each equipment which fails during the final 24 hour period shall be repaired and returned to test until it successfully survives a 24 hour period without failure. Failures which occur during the burn-in test shall be noted and reported, but shall not count toward the establishment of equipment MTBF. Prior to burn-in, the satisfactory operation test of 4.3.1 shall be conducted. Daily satisfactory operation checks (4.3.1) shall be conducted. For the last 24 hour failure free period, a complete satisfactory operation test shall be conducted prior to and after the period.

4.4.4.2 Reliability sampling plan.



4.4.4.2.1 First Article. The Group F reliability demonstration shall be conducted on at least five (5) samples. The use of ten (10) samples is encouraged, but not more than ten (10) samples shall be used.

4.4.4.2.2 Quality conformance inspection. The Group F reliability tests shall be performed on the first production lot, only if not performed during First Article testing. From those units of the first lot that have passed the required Group A and B tests, a random sample of ten (10) units shall be selected, for Group F testing.

4.4.4.2.3 Reliability test plan. The reliability tests shall be conducted in accordance with the following test plan:

$$\theta_0 =$$

<u>Number of Failures</u>	<u>Accept** (Equal or More)</u>	<u>Total Test Time* Reject*** (Equal or Less)</u>
0		
1		
2		
3		
4		
5		
6		****

\* Total test time is total unit hours of "equipment ON" time (in hours).

\*\* Accept if test time is greater than or equal to that listed.

\*\*\* Reject if test time is less than or equal to that listed.

\*\*\*\* Reject if test time is strictly less than \_\_\_\_\_ with 6 failures.

4.4.4.3 Test length. Testing shall continue until the total unit hours together with the total count of relevant equipment failures permit either an accept or reject decision in accordance with the specified test plan. Only equipment "ON" time may be used in MTBF or longevity determinations. Testing shall be monitored in such a manner that the times to failure may be estimated with reasonable accuracy. No single equipment "ON" time shall be less than one-half the average operating time of all equipments "ON" test.

4.4.4.4 Test conditions.

4.4.4.4.1 Operating mode (duty cycle).

4.4.4.4.2 Test level. While under test, the equipment shall be subjected to the conditions specified by Test Level B, MIL-STD-781.

4.4.4.4.3 Input voltage cycling. When so directed by the procuring activity, voltage cycling shall be accomplished as follows: The input voltage shall be maintained at one hundred ten percent (110%) nominal voltage for one-third of the equipment "ON" cycle, at the nominal value for the second one-third of the equipment "ON" cycle, and at ninety percent (90%) for the final one-third of the equipment "ON" cycle. This cycling procedure is to be repeated continuously throughout the reliability test.

4.4.4.5 Reliability examination and test method. The following inspections shall be used to verify equipment operation during reliability testing. The satisfactory operation test of 4.3.1 shall be used to confirm proper equipment operation prior to and following reliability testing. The satisfactory operation test shall also be performed weekly to verify equipment operation. The satisfactory operation check of 4.3.1 shall be used to monitor proper operation of the equipment daily.

4.4.4.6 Reliability failure actions, Group F. In the event of failure(s) during reliability testing, failure action shall be taken as required in MIL-STD-781, para 5.5.

4.4.4.7 Corrective action, Group F. In the event the reliability test reaches a reject decision, corrective action shall be taken as required in MIL-STD-781, para 5.7.

4.4.5 Optional quality assurance system. The procuring activity may substitute tests from a Department of Defense (DoD) approved supplier's quality assurance system for any or all tests in TABLE I.

5. PACKAGING

5.1 Preservation, packaging. Packaging for delivery shall be in accordance with MIL-T-28800 and as specified by the procuring activity.

6. NOTES

6.1 Intended use. The equipment is intended for use in maintaining electronic communications equipment by equipment repair units in intermediate and depot maintenance.

6.1.1 Equipment replaced. Equipment procured according to this specification is intended to replace all versions of various older equipments now fielded. These equipments to be replaced are listed below:

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification and any amendment thereto.
- b. Packaging requirements (see Section 5).
- c. When rough handling and functional tests are required.
- d. Place of final inspection.
- e. Technical literature required.
- f. Quantity of tools and running spare parts required.
- g. Marking for shipment and shipping containers.
- h. Test plans and test reports.
- i. Classification of inspection and number of samples required.
- j. Rack mounting requirements.
- k. Alternate power requirements.
- l. Maintainability rationale.
- m. Reliability rationale.

6.3 Contract data requirements.

- a. Nomenclature assignment.
- b. National stock number.
- c. Equipment sample test plans.
- d. Pretest performance records.
- e. First production test data.
- f. Identification plate drawing.

#### 6.4 Definitions.

6.4.1 Level A performance tests. Level A testing (TABLE II) is a reduced amount of testing which is performed on each equipment produced. Its purpose is to insure that all functions and modes of operation of the equipment are evaluated without extensively checking each parameter as required in the Level B test (TABLE III). The approved equipment test procedure shall specify the actual amount of testing to be performed.

6.4.2 Reliability rationale. Reliability rationale submitted with the bid should provide clear and concise rationale showing how the reliability of the equipment complies with minimum requirements of the solicitation. This may include data from previous reliability tests, reliability predictions and other data available to the offeror. In the absence of such data on the equipment being offered, such data on similar equipment of equal or greater complexity produced by the offeror may be submitted. However, such data must be clearly identified as comparative data, and accomplished with specifications and technical literature on the similar equipment. The acceptance of the submitted rationale does not relieve the successful bidder of performing and successfully completing the production reliability testing.

6.4.3 Maintainability rationale. Maintainability rationale submitted with the bid should provide clear and concise rationale showing how the maintainability of the equipment complies with requirements of the solicitation. This may include data from previous maintainability tests, records of repair and calibration data, and other data on the equipment available to the offeror. Data on selection of module size and other design features relevant to maintainability may also be submitted.

Custodian:

Army - EL

Preparing Activity:

Army - EL

Review Activities:

Army -

(Project 6625-

User Activities:

Army -

*APPENDIX B*

MILITARY (OTS ETE) SPECIFICATION  
GENERATOR, SIGNAL, FUNCTION

Off-the-Shelf (OTS)  
Test Equipment Specification

MIL-X-XXXXX (EL)

12 April 1978

MILITARY SPECIFICATION

This specification is approved for use by the Communications Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification defines a Generator, Signal, Function hereinafter called the equipment.

1.2 Classification. The equipment defined by this specification shall be Type II, Class 5, Style E, Color R per MIL-T-28800 and as herein with the convertible/rack-mountable capability.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on the date of invitation for bids, or the request for proposal, form a part of this specification to the extent specified herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U. S. Army Communications Research and Development Command, Fort Monmouth, New Jersey 07703 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6625

MIL-X-XXXXX (EL)

## SPECIFICATIONS

### MILITARY

MIL-T-28800	Test Equipment for Use with Electrical and Electronic Equipment, General Specification for
-------------	--

## STANDARDS

### MILITARY

MIL-STD-461	Electromagnetic Interference Characteristics, Requirements for Equipments
MIL-STD-462	Electromagnetic Interference Characteristics, Measurement of
MIL-STD-781	Reliability Tests, Exponential Distribution

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

## 3. REQUIREMENTS

3.1 Classification of requirements. The requirements for the equipment are classified as follows:

<u>REQUIREMENT</u>	<u>PARAGRAPH</u>
Safety	3.2
Parts, materials and processes	3.3
Design and construction	3.4
Electrical power sources and connections	3.5
Dimensions and weight	3.6
Enclosure requirements	3.7
Marking and identification	3.8
Environmental requirements	3.9
Reliability requirements	3.10
Performance characteristics	3.11



3.2 Safety. Unless otherwise specified herein, the equipment shall comply with the Type II safety requirements specified in MIL-T-28800.

3.3 Parts, materials and processes. Unless otherwise specified herein, the equipment shall comply with the Type II parts, materials and processes requirements of MIL-T-28800.

3.3.1 Restricted materials. Equipment shall comply with the restricted material requirements of MIL-T-28800 including the requirement for mercury or radioactive materials and shall contain no combination of materials which cause deterioration of any material contained in the equipment due to effects of outgassing.

3.4 Design and construction. Unless otherwise specified herein, the equipment shall comply with the Type II, Class 5, Style E, Color R, design and construction requirements of MIL-T-28800 with the convertible/rack-mountable capability.

3.4.1 First article. When specified, the contractor shall furnish five sample equipments for first article inspection and approval. (See 4.3 and 6.2)

3.4.2 Mainframe plug-in concept. Equipment utilizing externally accessible, externally removable subassemblies (mainframe plug-in concept) do not meet the requirements of this specification and therefore are unacceptable. Items using this concept may be offered, provided the plug-in(s) shall not be removable by access through the front panel or rear panel with the unaided hand. A system part number shall be assigned to any such mainframe plug-in combination required to meet the requirements of this specification. The system part number shall be marked on the mainframe identification plate and any plug-in(s).

3.4.3 Controls. Unless otherwise specified herein, built-in adjustments and compensating devices shall not be externally accessible.

3.4.3.1 Front panel controls. All controls which are required to operate the equipment throughout its specified performance characteristics, shall be located on the front panel.

3.4.4 Accessibility. The equipment shall be constructed so that:

3.4.4.1 Subassemblies and chassis components can be removed without removing any other hard wired subassembly, printed circuit card or component.

3.4.4.2 Adjustments can be made without removing any component, printed circuit card or subassembly except the use of extender cards is permitted.

3.4.4.3 Printed circuit cards can be removed without the need to unsolder cables and interconnecting wiring (connections to all printed circuit cards shall be through pin and socket connectors). Printed circuit cards (mother boards) designed primarily to distribute power and signals to other printed cards (daughter boards) are excluded from this requirement. When such motherboards are used, they shall be accessible from both sides to allow maintenance testing.

3.4.4.4 Indicator lights. Unless approved by the procuring activity upon presentation of acceptable reliability data, indicator lights other than light emitting diodes (LEDs) shall be accessible from the operator's side of the front panel.

3.4.4.5 Encapsulation and embedment. Encapsulation and embedment (potting) of subassemblies shall not be used.

3.4.5 Solid State construction. Unless otherwise specified herein, the equipment shall be of solid-state, modular, miniaturized construction.

3.5 Electrical power sources and connections. Unless otherwise specified herein, the equipment shall comply with the Type II electrical power sources and connections requirements of MIL-T-28800. The equipment shall operate from a nominal 115/230 volts, single phase, 50, 60 and 400Hz source.

3.5.1 Maximum power. The maximum power consumption of the equipment shall be 50 watts.

3.5.2 Input power selection device. An input power selection device shall be provided for selection of input power voltages of 115 VAC or 230 VAC. Provision shall be incorporated to prevent accidental switching. When the equipment is delivered, the power selection device shall be in the 115 VAC position.

3.5.3 Fuses and circuit breakers. Fuses and circuit breakers shall be in accordance with MIL-T-28800. (115VAC/230VAC) Either common or separate fuseholders may be provided. If only one fuseholder is used (common), the equipment shall be provided with the 115VAC fuse installed and the 230VAC fuse shall be stowed with the accessories.

3.5.4 Input power switch. A front panel mounted power switch shall be provided. The ON position shall have panel identification lights for AC operation. The switch shall break both sides of the power source.

3.6 Dimensions and weight.

3.6.1 Dimensions. The overall dimensions shall be 152.4mm (6 in) maximum height, 381mm (15 in) maximum depth and the width 482.6mm (19 in), as specified in MIL-T-28800 for rack-mounted equipment. A blank plate may be required to satisfy incremental height requirements.

3.6.2 Weight. The maximum weight of the equipment shall be 4KG (9 lbs).

3.7 Enclosure requirements. Unless otherwise specified herein, the equipment shall comply with the Style E enclosure requirements of MIL-T-28800.

3.8 Marking and identification. Unless otherwise specified herein, the equipment shall comply with the Type II marking and identification requirements of MIL-T-28800.

3.8.1 Supplemental identification plate. The supplemental identification plate specified in MIL-T-28800 shall contain the following data only:

- a. Nomenclature.
- b. Procurement instrument identification number (PIIN).
- c. Serial number
- d. National stock number.
- e. US

3.9 Environmental requirements. Unless otherwise specified herein, the equipment shall comply with the Class 5 environmental requirements of MIL-T-28800.

3.9.1 Electromagnetic interference. The equipment shall comply with the following emission and susceptibility requirements of Notice 4, MIL-STD-461.

CE02	CS02	RE02.1	RS03
CE04	CS06	RE02	

RE02.1 and RS03 shall be performed from (TBD) with RS03 at a susceptibility level of one volt per meter (1V/m).

3.9.2 Humidity. The equipment shall meet the humidity requirements in accordance with the test specified in paragraph 4.5.5.1.1.3 of MIL-T-28800.

3.9.3 Vibration. The equipment shall comply with the Class 5 vibration requirements of MIL-T-28800, except that the equipment need not be operating during vibration.

### 3.10 Reliability requirements.

3.10.1 Reliability burn-in. Each equipment delivered against this specification shall be submitted to a minimum 96-hour on-time burn-in procedure as specified in 4.4.4. The last 24 hours of burn-in shall be failure free.

3.10.2 Reliability. Reliability shall comply with requirements as specified herein. The specified MTBF shall be 2500 hours when tested as specified in 4.4.4. A failure shall be defined in MIL-STD-781, para 3.1, and as any departure from the required performance or operation of the required accuracies (not correctable by normal use of the operating controls) after the test is initiated. Test Level B, MIL-STD-781 shall be the required test level.

3.10.3 Maintainability requirements. The equipment shall comply with the Type II maintainability requirements of MIL-T-28800. (See 6.4)

### 3.11 Performance characteristics.

3.11.1 Output frequency. The output frequency range of the equipment, at a minimum, shall extend from 00.1Hz to 10MHz. The accuracy of the output frequency shall be at a minimum within  $\pm 5$  percent of the indicated frequency. The minimum required output frequency of the equipment shall be divided into a maximum of 10 frequency bands.

3.11.1.1 Distortion. The sine wave distortion shall not exceed 0.5 percent at 1KHz.

3.11.1.2 Frequency response. The output level shall not vary more than  $\pm 1$ dB over any individual frequency band.

3.11.1.3 Harmonics. The sine wave harmonics shall be at least 30dB below the fundamental frequency.

3.11.2 Output signals. The output waveforms shall be selectable, at a minimum, between sine, square, sawtooth, triangle and pulse waveforms.

3.11.2.1 DC offset. The DC offset shall be continuously adjustable, at a minimum, from -10 volts DC to +10 volts DC.

3.11.2.2 Linearity. The linearity error of the sawtooth and triangle waveforms shall be less than 1 percent at 100Hz.

3.11.2.3 Pulse width. The pulse width shall be continuously variable at a minimum over a range of 0.1 microsecond to 5 seconds.

3.11.2.4 Pulse MOD transition time. The rise and fall time of the square and pulse waveforms shall be less than 21 nanoseconds.

3.11.2.5 Synchronization output. The equipment shall provide a synchronization signal output of at least 1 volt peak-to-peak square wave. The source impedance shall be 50 ohms +/-10 percent.

3.11.3 Attenuation output. The output attenuation range shall be at a minimum 50dB with 10dB vernier calibrated in 1dB steps.

3.11.4 Output voltage. The output voltage shall be at least 10 volts peak-to-peak across a 50 ohm load. The accuracy of the output voltage shall be within  $\pm 1$ dB of the indicated value.

3.11.5 Impedance output. The output impedance of the equipment shall be 50 ohms.

3.11.6 Primary connectors. The output signal connectors shall be series "BNC" female.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.



4.2 Classification of inspections. The inspections required herein are classified as in a and b.

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.3).

4.3 First article and quality conformance inspection. Unless otherwise specified herein, the first article and quality conformance inspections shall be in accordance with MIL-T-28800.

4.3.1 Test plan. Unless otherwise stated in the contract, the contractor shall prepare a test plan in accordance with paragraphs 4.3(a) and 4.4(a) of MIL-T-28800, for use with both classes of inspection. The test plan shall include as a minimum the tests listed in TABLES I, II, & III, the tests noted in section 4.4, and a description of the satisfactory operation check and satisfactory operation test, as defined in para 4.5 of MIL-T-28800. Unless otherwise required, the tests and inspections to be performed shall be identical for both classes of inspection.

4.3.2 Inspection sampling plan. The inspection sampling to be performed during both classes of inspection shall be as specified in MIL-T-28800, except as indicated below:

4.3.2.1 Unless otherwise specified herein or in the contract, the Group C, D, E & F quality conformance inspections shall be performed on the first production lot only.

TABLE IExamination and Test Groups

DESCRIPTION	RQMT.	TEST METHOD
Group A Preoperational Inspection Leakage Current Level A Performance	4.5.3.1* 3.2.1.3.1* TABLE II	4.3.1
Group B Level B Performance	TABLE III	4.3.1
Group C Electrical Power Environmental Requirements Humidity Vibration	3.5 3.9 3.9.2 3.9.3	4.3.1
Group D Electromagnetic Interference	3.9.1	4.4.1
Group E Dimensions Weight Front Panel Marking	3.6.1 3.6.2 3.8	4.3.1 4.3.1
Group F Reliability	3.10	4.3.1, 4.4.4

\*Paragraphs of MIL-T-28800



MIL-X-XXXXX(EL)

TABLE II

Level A Performance Tests 1/

DESCRIPTION	REQUIREMENTS
Output Frequency	3.11.1
Output Signals	3.11.2
Output Attenuation	3.11.3
Output Voltage	3.11.4
Output Impedance	3.11.5

1/ Level A testing is abbreviated testing (see 6.4.1)

TABLE III

Level B Performance Tests

DESCRIPTION	REQUIREMENTS
Distortion	3.11.1.1
Frequency Response	3.11.1.2
Harmonics	3.11.1.3
DC Off Set	3.11.2.1
Linearity	3.11.2.2
Pulse Width	3.11.2.3
Pulse Modulation Transition Time	3.11.2.4
Synchronization Output	3.11.2.5

4.3.2.2 The Group D EMI tests and Group F Reliability test shall be performed during quality conformance inspection only if not performed during first article or bid sampling testing.

4.4 Quality assurance tests. Unless otherwise specified herein, the following tests shall be performed in accordance with MIL-T-28800.

4.4.1 Electromagnetic interference. One equipment shall be subjected to an EMI test for compliance with the requirements of 3.9.1. All test set-ups and procedures shall comply with the measurement techniques of Notice 3, MIL-STD-462. All emission and susceptibility tests shall be performed with the output cable connected to, and extended parallel with, the front of the equipment. The output cable shall be terminated to simulate a normal loading configuration.

4.4.2 Humidity. The equipment shall be subjected to the humidity test specified in para 4.5.5.1.1.3 of MIL-T-28800.

4.4.3 Vibration. The equipment shall be subjected to the vibration tests specified in MIL-T-28800, for Class 5 equipment, except that the equipment shall not be operated during the test. The satisfactory operation test shall be performed prior to and following vibration testing.

4.4.4 Reliability. The reliability tests shall be performed as follows:

4.4.4.1 Burn-in. Each deliverable equipment shall be subjected to a minimum 96 hours on-time burn-in period, prior to Group A testing. During the last 24 hours of burn-in, the equipment must operate failure free. Up until this time, equipment will be allowed to accumulate failures. Each equipment which fails during the final 24 hour period shall be repaired and returned to test until it successfully survives a 24 hour period without failure. Failures which occur during the burn-in test shall be noted and reported, but shall not count toward the establishment of equipment MTBF. Prior to burn-in, the satisfactory operation test of 4.3.1 shall be conducted. Daily satisfactory operation checks (4.3.1) shall be conducted. For the last 24 hour failure free period, a complete satisfactory operation test shall be conducted prior to and after the period.

4.4.4.2 Reliability sampling plan.

4.4.4.2.1 First Article. The Group F reliability demonstration shall be conducted on at least five (5) samples. The use of ten (10) samples is encouraged, but not more than ten (10) samples shall be used.

4.4.4.2.2 Quality conformance inspection. The Group F reliability tests shall be performed on the first production lot, only if not performed during First Article testing. From those units of the first lot that have passed the required Group A and B tests, a random sample of ten (10) units shall be selected, for Group F testing.

4.4.4.2.3 Reliability test plan. The reliability tests shall be conducted in accordance with the following test plan:

$$\theta_o =$$

<u>Number of Failures</u>	<u>Accept** (Equal or More)</u>	<u>Total Test Time*</u>	
		<u>Reject***</u>	<u>(Equal or Less)</u>
0			
1			
2			
3			
4			
5			
6			

\*\*\*\*

- \* Total test time is total unit hours of "equipment ON" time (in hours).
- \*\* Accept if test time is greater than or equal to that listed.
- \*\*\* Reject if test time is less than or equal to that listed.
- \*\*\*\* Reject if test time is strictly less than \_\_\_\_\_ with 6 failures.

4.4.4.3 Test length. Testing shall continue until the total unit hours together with the total count of relevant equipment failures permit either an accept or reject decision in accordance with the specified test plan. Only equipment "ON" time may be used in MTBF or longevity determinations. Testing shall be monitored in such a manner that the times to failure may be estimated with reasonable accuracy. No single equipment "ON" time shall be less than one-half the average operating time of all equipments "ON" test.

4.4.4.4 Test conditions.

4.4.4.4.1 Operating mode (duty cycle).

4.4.4.4.2 Test level. While under test, the equipment shall be subjected to the conditions specified by Test Level B, MIL-STD-781.

4.4.4.4.3 Input voltage cycling. When so directed by the procuring activity, voltage cycling shall be accomplished as follows: The input voltage shall be maintained at one hundred ten percent (110%) nominal voltage for one-third of the equipment "ON" cycle, at the nominal value for the second one-third of the equipment "ON" cycle, and at ninety percent (90%) for the final one-third of the equipment "ON" cycle. This cycling procedure is to be repeated continuously throughout the reliability test.

4.4.4.5 Reliability examination and test method. The following inspections shall be used to verify equipment operation during reliability testing. The satisfactory operation test of 4.3.1 shall be used to confirm proper equipment operation prior to and following reliability testing. The satisfactory operation test shall also be performed weekly to verify equipment operation. The satisfactory operation check of 4.3.1 shall be used to monitor proper operation of the equipment daily.

4.4.4.6 Reliability failure actions, Group F. In the event of failure(s) during reliability testing, failure action shall be taken as required in MIL-STD-781, para 5.5.

4.4.4.7 Corrective action, Group F. In the event the reliability test reaches a reject decision, corrective action shall be taken as required in MIL-STD-781, para 5.7.

4.4.5 Optional quality assurance system. The procuring activity may substitute tests from a Department of Defense (DoD) approved supplier's quality assurance system for any or all tests in TABLE I.

5. PACKAGING

5.1 Preservation, packaging. Packaging for delivery shall be in accordance with MIL-T-28800 and as specified by the procuring activity.

6. NOTES

6.1 Intended use. The equipment is intended for use in maintaining electronic communications equipment by equipment repair units in intermediate and depot maintenance.

6.1.1 Equipment replaced. Equipment procured according to this specification is intended to replace all versions of various older equipments now fielded. These equipments to be replaced are listed below:

AN/USM-108  
AN/USM-48  
PL-1178/U  
SG-298/U  
SG-321/U  
SG-747/U  
SG-769/U

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification and any amendment thereto.
- b. Packaging requirements (see Section 5).
- c. When rough handling and functional tests are required.
- d. Place of final inspection.
- e. Technical literature required.
- f. Quantity of tools and running spare parts required.
- g. Marking for shipment and shipping containers.
- h. Test plans and test reports.
- i. Classification of inspection and number of samples required.
- j. Rack mounting requirements.
- k. Alternate power requirements.
- l. Maintainability rationale.
- m. Reliability rationale.

6.3 Contract data requirements.

- a. Nomenclature assignment.
- b. National stock number.
- c. Equipment sample test plans.
- d. Pretest performance records.
- e. First production test data.
- f. Identification plate drawing.

#### 6.4 Definitions.

6.4.1 Level A performance tests. Level A testing (TABLE II) is a reduced amount of testing which is performed on each equipment produced. Its purpose is to insure that all functions and modes of operation of the equipment are evaluated without extensively checking each parameter as required in the Level B test (TABLE III). The approved equipment test procedure shall specify the actual amount of testing to be performed.

6.4.2 Reliability rationale. Reliability rationale submitted with the bid should provide clear and concise rationale showing how the reliability of the equipment complies with minimum requirements of the solicitation. This may include data from previous reliability tests, reliability predictions and other data available to the offeror. In the absence of such data on the equipment being offered, such data on similar equipment of equal or greater complexity produced by the offeror may be submitted. However, such data must be clearly identified as comparative data, and accomplished with specifications and technical literature on the similar equipment. The acceptance of the submitted rationale does not relieve the successful bidder of performing and successfully completing the production reliability testing.

6.4.3 Maintainability rationale. Maintainability rationale submitted with the bid should provide clear and concise rationale showing how the maintainability of the equipment complies with requirements of the solicitation. This may include data from previous maintainability tests, records of repair and calibration data, and other data on the equipment available to the offeror. Data on selection of module size and other design features relevant to maintainability may also be submitted.

Custodian:

Army - EL

Preparing Activity:

Army - EL

Review Activities:

Army -

(Project 6625-

User Activities:

Army -

*APPENDIX C*

MILITARY (OTS ETE) SPECIFICATION  
GENERATOR, PULSE, SIGNAL



Off-the-Shelf (OTS)  
Test Equipment Specification

MIL-X-XXXXX(EL)

12 April 1978

MILITARY SPECIFICATION

This specification is approved for use by the Communications Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification defines a Generator, Signal, Pulse hereinafter called the equipment.

1.2 Classification. The equipment defined by this specification shall be Type II, Class 5, Style E, Color R per MIL-T-28800 and as herein with the convertible/rack-mountable capability.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on the date of invitation for bids, or the request for proposal, form a part of this specification to the extent specified herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U. S. Army Communications Research and Development Command, Fort Monmouth, New Jersey 07703 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6625

MIL-X-XXXXX (EL)

## SPECIFICATIONS

### MILITARY

MIL-T-28800	Test Equipment for Use with Electrical and Electronic Equipment, General Specification for
-------------	--

### STANDARDS

#### MILITARY

MIL-STD-461	Electromagnetic Interference Characteristics, Requirements for Equipments
MIL-STD-462	Electromagnetic Interference Characteristics, Measurement of
MIL-STD-781	Reliability Tests, Exponential Distribution

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

## 3. REQUIREMENTS

3.1 Classification of requirements. The requirements for the equipment are classified as follows:

<u>REQUIREMENT</u>	<u>PARAGRAPH</u>
Safety	3.2
Parts, materials and processes	3.3
Design and construction	3.4
Electrical power sources and connections	3.5
Dimensions and weight	3.6
Enclosure requirements	3.7
Marking and identification	3.8
Environmental requirements	3.9
Reliability requirements	3.10
Performance characteristics	3.11

3.2 Safety. Unless otherwise specified herein, the equipment shall comply with the Type II safety requirements specified in MIL-T-28800.

3.3 Parts, materials and processes. Unless otherwise specified herein, the equipment shall comply with the Type II parts, materials and processes requirements of MIL-T-28800.

3.3.1 Restricted materials. Equipment shall comply with the restricted material requirements of MIL-T-28800 including the requirement for mercury or radioactive materials and shall contain no combination of materials which cause deterioration of any material contained in the equipment due to effects of outgassing.

3.4 Design and construction. Unless otherwise specified herein, the equipment shall comply with the Type II, Class 5, Style E, Color R, design and construction requirements of MIL-T-28800 with the convertible/rack-mountable capability.

3.4.1 First article. When specified, the contractor shall furnish five sample equipments for first article inspection and approval. (See 4.3 and 6.2)

3.4.2 Mainframe plug-in concept. Equipment utilizing externally accessible, externally removable subassemblies (mainframe plug-in concept) do not meet the requirements of this specification and therefore are unacceptable. Items using this concept may be offered, provided the plug-in(s) shall not be removable by access through the front panel or rear panel with the unaided hand. A system part number shall be assigned to any such mainframe plug-in combination required to meet the requirements of this specification. The system part number shall be marked on the mainframe identification plate and any plug-in(s).

3.4.3 Controls. Unless otherwise specified herein, built-in adjustments and compensating devices shall not be externally accessible.

3.4.3.1 Front panel controls. All controls which are required to operate the equipment throughout its specified performance characteristics, shall be located on the front panel.

3.4.4 Accessibility. The equipment shall be constructed so that:

3.4.4.1 Subassemblies and chassis components can be removed without removing any other hard wired subassembly, printed circuit card or component.

3.4.4.2 Adjustments can be made without removing any component, printed circuit card or subassembly except the use of extender cards is permitted.

3.4.4.3 Printed circuit cards can be removed without the need to unsolder cables and interconnecting wiring (connections to all printed circuit cards shall be through pin and socket connectors). Printed circuit cards (mother boards) designed primarily to distribute power and signals to other printed cards (daughter boards) are excluded from this requirement. When such mother-boards are used, they shall be accessible from both sides to allow maintenance testing.

3.4.4.4 Indicator lights. Unless approved by the procuring activity upon presentation of acceptable reliability data, indicator lights other than light emitting diodes (LEDs) shall be accessible from the operator's side of the front panel.

3.4.4.5 Encapsulation and embedment. Encapsulation and embedment (potting) of subassemblies shall not be used.

3.4.5 Solid State construction. Unless otherwise specified herein, the equipment shall be of solid-state, modular, miniaturized construction.

3.5 Electrical power sources and connections. Unless otherwise specified herein, the equipment shall comply with the Type II electrical power sources and connections requirements of MIL-T-28800. The equipment shall operate from a nominal 115/230 volts, single phase, 50, 60 and 400Hz source.

3.5.1 Maximum power. The maximum power consumption of the equipment shall be 75 watts.

3.5.2 Input power selection device. An input power selection device shall be provided for selection of input power voltages of 115 VAC or 230 VAC. Provision shall be incorporated to prevent accidental switching. When the equipment is delivered, the power selection device shall be in the 115 VAC position.

3.5.3 Fuses and circuit breakers. Fuses and circuit breakers shall be in accordance with MIL-T-28800. (115VAC/230VAC) Either common or separate fuseholders may be provided. If only one fuseholder is used (common), the equipment shall be provided with the 115VAC fuse installed and the 230VAC fuse shall be stowed with the accessories.

3.5.4 Input power switch. A front panel mounted power switch shall be provided. The ON position shall have panel identification lights for AC operation. The switch shall break both sides of the power source.

3.6 Dimensions and weight.

3.6.1 Dimensions. The overall dimensions shall be 165mm (6.5 in) maximum height, 343mm (13.5 in) maximum depth and the width of 432mm (17 in). A blank plate may be required to satisfy incremental height requirements.

3.6.2 Weight. The maximum weight of the equipment shall be 10KG (22.1 lbs).

3.7 Enclosure requirements. Unless otherwise specified herein, the equipment shall comply with the Style E enclosure requirements of MIL-T-28800.

3.8 Marking and identification. Unless otherwise specified herein, the equipment shall comply with the Type II marking and identification requirements of MIL-T-28800.

3.8.1 Supplemental identification plate. The supplemental identification plate specified in MIL-T-28800 shall contain the following data only:

- a. Nomenclature.
- b. Procurement instrument identification number (PIIN).
- c. Serial number
- d. National stock number.
- e. US

3.9 Environmental requirements. Unless otherwise specified herein, the equipment shall comply with the Class 5 environmental requirements of MIL-T-28800.

3.9.1 Electromagnetic interference. The equipment shall comply with the following emission and susceptibility requirements of Notice 4, MIL-STD-461.

CE02	CS02	RE02.1	RS03
CE04	CS06	RE02	

RE02.1 and RS03 shall be performed from (TBD) with RS03 at a susceptibility level of one volt per meter (1V/m).

3.9.2 Humidity. The equipment shall meet the humidity requirements in accordance with the test specified in paragraph 4.5.5.1.1.3 of MIL-T-28800.

3.9.3 Vibration. The equipment shall comply with the Class 5 vibration requirements of MIL-T-28800, except that the equipment need not be operating during vibration.

### 3.10 Reliability requirements.

3.10.1 Reliability burn-in. Each equipment delivered against this specification shall be submitted to a minimum 96-hour on-time burn-in procedure as specified in 4.4.4. The last 24 hours of burn-in shall be failure free.

3.10.2 Reliability. Reliability shall comply with requirements as specified herein. The specified MTBF shall be 2000 hours when tested as specified in 4.4.4. A failure shall be defined in MIL-STD-781, para 3.1, and as any departure from the required performance or operation of the required accuracies (not correctable by normal use of the operating controls) after the test is initiated. Test Level B, MIL-STD-781 shall be the required test level.

3.10.3 Maintainability requirements. The equipment shall comply with the Type II maintainability requirements of MIL-T-28800. (See 6.4)

### 3.11 Performance characteristics.

3.11.1 Output Signal. The output signal shall consist of a variable pulse wave form.

3.11.1.1 Pulse width. The pulse width shall be variable at a minimum from 10 nanoseconds to 1 second, within +/- 0.002 percent of the indicated value.

3.11.1.2 Pulse transition time. Pulse transition time shall be less than 5 nanoseconds.



3.11.1.3 Synchronization Mode. The equipment shall be capable of internal and external mode synchronization.

3.11.2 Pulse rate. The output pulse repetition rate of the equipment at a minimum, shall extend from 10 pulses to 50 million pulses per second with a maximum of six ranges. The pulse rate accuracy shall be at a minimum, within  $\pm 0.002$  percent of the indicated value.

3.11.3 Output Attenuation. The output attenuation range shall be 0 to 90DB with a 10DB vernier calibrated in 1DB steps.

3.11.4 Voltage output. The voltage output shall be adjustable to 3 volts across a 50 ohm load and accurate to within  $\pm 0.5$ dB of the indicated value.

3.11.5 Impedance output. The output impedance shall be 50 ohms.

3.11.6 Primary connectors. The output signal connectors shall be series "BNC" female.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspections required herein are classified as in a and b.

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.3).

4.3 First article and quality conformance inspection. Unless otherwise specified herein, the first article and quality conformance inspections shall be in accordance with MIL-T-28800.



4.3.1 Test plan. Unless otherwise stated in the contract, the contractor shall prepare a test plan in accordance with paragraphs 4.3(a) and 4.4(a) of MIL-T-28800, for use with both classes of inspection. The test plan shall include as a minimum the tests listed in TABLES I, II, & III, the tests noted in section 4.4, and a description of the satisfactory operation check and satisfactory operation test, as defined in para 4.5 of MIL-T-28800. Unless otherwise required, the tests and inspections to be performed shall be identical for both classes of inspection.

4.3.2 Inspection sampling plan. The inspection sampling to be performed during both classes of inspection shall be as specified in MIL-T-28800, except as indicated below:

4.3.2.1 Unless otherwise specified herein or in the contract, the Group C, D, E & F quality conformance inspections shall be performed on the first production lot only.

TABLE IExamination and Test Groups

DESCRIPTION	RQMT.	TEST METHOD
Group A Preoperational Inspection Leakage Current Level A Performance	4.5.3.1* 3.2.1.3.1* TABLE II	4.3.1
Group B Level B Performance	TABLE III	4.3.1
Group C Electrical Power Environmental Requirements Humidity Vibration	3.5 3.9 3.9.2 3.9.3	4.3.1
Group D Electromagnetic Interference	3.9.1	4.4.1
Group E Dimensions Weight Front Panel Marking	3.6.1 3.6.2 3.8	4.3.1 4.3.1
Group F Reliability	3.10	4.3.1, 4.4.4

\*Paragraphs of MIL-T-28800

MIL-X-XXXXX(EL)

TABLE II

Level A Performance Tests 1/

DESCRIPTION	REQUIREMENTS
Output Signal	3.11.1
Pulse Rate	3.11.2
Output Attenuation	3.11.3
Voltage Output	3.11.4
Impedance Output	3.11.5

1/ Level A testing is abbreviated testing (see 6.4.1)

TABLE III

Level B Performance Tests

DESCRIPTION	REQUIREMENTS
Pulse Width	3.11.1.1
Pulse Transition Time	3.11.1.2
Synchronization Mode	3.11.1.3

4.3.2.2 The Group D EMI tests and Group F Reliability test shall be performed during quality conformance inspection only if not performed during first article or bid sampling testing.

4.4 Quality assurance tests. Unless otherwise specified herein, the following tests shall be performed in accordance with MIL-T-28800.

4.4.1 Electromagnetic interference. One equipment shall be subjected to an EMI test for compliance with the requirements of 3.9.1. All test set-ups and procedures shall comply with the measurement techniques of Notice 3, MIL-STD-462. All emission and susceptibility tests shall be performed with the output cable connected to, and extended parallel with, the front of the equipment. The output cable shall be terminated to simulate a normal loading configuration.

4.4.2 Humidity. The equipment shall be subjected to the humidity test specified in para 4.5.5.1.1.3 of MIL-T-28800.

4.4.3 Vibration. The equipment shall be subjected to the vibration tests specified in MIL-T-28800, for Class 5 equipment, except that the equipment shall not be operated during the test. The satisfactory operation test shall be performed prior to and following vibration testing.

4.4.4 Reliability. The reliability tests shall be performed as follows:

4.4.4.1 Burn-in. Each deliverable equipment shall be subjected to a minimum 96 hours on-time burn-in period, prior to Group A testing. During the last 24 hours of burn-in, the equipment must operate failure free. Up until this time, equipment will be allowed to accumulate failures. Each equipment which fails during the final 24 hour period shall be repaired and returned to test until it successfully survives a 24 hour period without failure. Failures which occur during the burn-in test shall be noted and reported, but shall not count toward the establishment of equipment MTBF. Prior to burn-in, the satisfactory operation test of 4.3.1 shall be conducted. Daily satisfactory operation checks (4.3.1) shall be conducted. For the last 24 hour failure free period, a complete satisfactory operation test shall be conducted prior to and after the period.

4.4.4.2 Reliability sampling plan.

4.4.4.2.1 First Article. The Group F reliability demonstration shall be conducted on at least five (5) samples. The use of ten (10) samples is encouraged, but not more than ten (10) samples shall be used.

4.4.4.2.2 Quality conformance inspection. The Group F reliability tests shall be performed on the first production lot, only if not performed during First Article testing. From those units of the first lot that have passed the required Group A and B tests, a random sample of ten (10) units shall be selected, for Group F testing.

4.4.4.2.3 Reliability test plan. The reliability tests shall be conducted in accordance with the following test plan:

$$\theta_o =$$

Number of Failures	Accept** (Equal or More)	Total Test Time*
		Reject*** (Equal or Less)
0		
1		
2		
3		
4		
5		
6		****

- \* Total test time is total unit hours of "equipment ON" time (in hours).  
 \*\* Accept if test time is greater than or equal to that listed.  
 \*\*\* Reject if test time is less than or equal to that listed.  
 \*\*\*\* Reject if test time is strictly less than \_\_\_\_\_ with 6 failures.

4.4.4.3 Test length. Testing shall continue until the total unit hours together with the total count of relevant equipment failures permit either an accept or reject decision in accordance with the specified test plan. Only equipment "ON" time may be used in MTBF or longevity determinations. Testing shall be monitored in such a manner that the times to failure may be estimated with reasonable accuracy. No single equipment "ON" time shall be less than one-half the average operating time of all equipments "ON" test.

4.4.4.4 Test conditions.

4.4.4.4.1 Operating mode (duty cycle).

4.4.4.4.2 Test level. While under test, the equipment shall be subjected to the conditions specified by Test Level B, MIL-STD-781.

4.4.4.4.3 Input voltage cycling. When so directed by the procuring activity, voltage cycling shall be accomplished as follows: The input voltage shall be maintained at one hundred ten percent (110%) nominal voltage for one-third of the equipment "ON" cycle, at the nominal value for the second one-third of the equipment "ON" cycle, and at ninety percent (90%) for the final one-third of the equipment "ON" cycle. This cycling procedure is to be repeated continuously throughout the reliability test.

4.4.4.5 Reliability examination and test method. The following inspections shall be used to verify equipment operation during reliability testing. The satisfactory operation test of 4.3.1 shall be used to confirm proper equipment operation prior to and following reliability testing. The satisfactory operation test shall also be performed weekly to verify equipment operation. The satisfactory operation check of 4.3.1 shall be used to monitor proper operation of the equipment daily.

4.4.4.6 Reliability failure actions, Group F. In the event of failure(s) during reliability testing, failure action shall be taken as required in MIL-STD-781, para 5.5.

4.4.4.7 Corrective action, Group F. In the event the reliability test reaches a reject decision, corrective action shall be taken as required in MIL-STD-781, para 5.7.

4.4.5 Optional quality assurance system. The procuring activity may substitute tests from a Department of Defense (DoD) approved supplier's quality assurance system for any or all tests in TABLE I.

5. PACKAGING

5.1 Preservation, packaging. Packaging for delivery shall be in accordance with MIL-T-28800 and as specified by the procuring activity.

6. NOTES

6.1 Intended use. The equipment is intended for use in maintaining electronic communications equipment by equipment repair units in intermediate and depot maintenance.

6.1.1 Equipment replaced. Equipment procured according to this specification is intended to replace all versions of various older equipments now fielded. These equipments to be replaced are listed below:

6.2 Ordering data. Procurement documents should specify the following:

a. Title, number and date of this specification and any amendment thereto.

b. Packaging requirements (see Section 5).

c. When rough handling and functional tests are required.

d. Place of final inspection.

e. Technical literature required.

f. Quantity of tools and running spare parts required.

g. Marking for shipment and shipping containers.

h. Test plans and test reports.

i. Classification of inspection and number of samples required.

j. Rack mounting requirements.

k. Alternate power requirements.

l. Maintainability rationale.

m. Reliability rationale.

6.3 Contract data requirements.

a. Nomenclature assignment.

b. National stock number.

c. Equipment sample test plans.

d. Pretest performance records.

e. First production test data.

f. Identification plate drawing.



#### 6.4 Definitions.

6.4.1 Level A performance tests. Level A testing (TABLE II) is a reduced amount of testing which is performed on each equipment produced. Its purpose is to insure that all functions and modes of operation of the equipment are evaluated without extensively checking each parameter as required in the Level B test (TABLE III). The approved equipment test procedure shall specify the actual amount of testing to be performed.

6.4.2 Reliability rationale. Reliability rationale submitted with the bid should provide clear and concise rationale showing how the reliability of the equipment complies with minimum requirements of the solicitation. This may include data from previous reliability tests, reliability predictions and other data available to the offeror. In the absence of such data on the equipment being offered, such data on similar equipment of equal or greater complexity produced by the offeror may be submitted. However, such data must be clearly identified as comparative data, and accomplished with specifications and technical literature on the similar equipment. The acceptance of the submitted rationale does not relieve the successful bidder of performing and successfully completing the production reliability testing.

6.4.3 Maintainability rationale. Maintainability rationale submitted with the bid should provide clear and concise rationale showing how the maintainability of the equipment complies with requirements of the solicitation. This may include data from previous maintainability tests, records of repair and calibration data, and other data on the equipment available to the offeror. Data on selection of module size and other design features relevant to maintainability may also be submitted.

Custodian:

Army - EL

Preparing Activity:

Army - EL

Review Activities:

Army -

(Project 6625-

User Activities:

Army -

*APPENDIX D*

MILITARY (OTS ETE) SPECIFICATION  
GENERATOR, SIGNAL, UHF

Off-the-Shelf (OTS)  
Test Equipment Specification

MIL-X-XXXXX(EL)

12 April 1978

MILITARY SPECIFICATION

This specification is approved for use by the Communications Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification defines a Generator, Signal, UHF hereinafter called the equipment.

1.2 Classification. The equipment defined by this specification shall be Type II, Class 5, Style E, Color R per MIL-T-28800 and as herein with the convertible/rack-mountable capability.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on the date of invitation for bids, or the request for proposal, form a part of this specification to the extent specified herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U. S. Army Communications Research and Development Command, Fort Monmouth, New Jersey 07703 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6625

MIL-X-XXXXX (EL)

## SPECIFICATIONS

### MILITARY

MIL-T-28800                      Test Equipment for Use with Electrical and  
   Electronic Equipment, General Specification  
   for

## STANDARDS

### MILITARY

MIL-STD-461                      Electromagnetic Interference Characteristics,  
   Requirements for Equipments

MIL-STD-462                      Electromagnetic Interference Characteristics,  
   Measurement of

MIL-STD-781                      Reliability Tests, Exponential Distribution

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

## 3. REQUIREMENTS

3.1 Classification of requirements. The requirements for the equipment are classified as follows:

<u>REQUIREMENT</u>	<u>PARAGRAPH</u>
Safety	3.2
Parts, materials and processes	3.3
Design and construction	3.4
Electrical power sources and connections	3.5
Dimensions and weight	3.6
Enclosure requirements	3.7
Marking and identification	3.8
Environmental requirements	3.9
Reliability requirements	3.10
Performance characteristics	3.11

3.2 Safety. Unless otherwise specified herein, the equipment shall comply with the Type II safety requirements specified in MIL-T-28800.

3.3 Parts, materials and processes. Unless otherwise specified herein, the equipment shall comply with the Type II parts, materials and processes requirements of MIL-T-28800.

3.3.1 Restricted materials. Equipment shall comply with the restricted material requirements of MIL-T-28800 including the requirement for mercury or radioactive materials and shall contain no combination of materials which cause deterioration of any material contained in the equipment due to effects of outgassing.

3.4 Design and construction. Unless otherwise specified herein, the equipment shall comply with the Type II, Class 5, Style E, Color R, design and construction requirements of MIL-T-28800 with the convertible/rack-mountable capability.

3.4.1 First article. When specified, the contractor shall furnish five sample equipments for first article inspection and approval. (See 4.3 and 6.2)

3.4.2 Mainframe plug-in concept. Equipment utilizing externally accessible, externally removable subassemblies (mainframe plug-in concept) do not meet the requirements of this specification and therefore are unacceptable. Items using this concept may be offered, provided the plug-in(s) shall not be removable by access through the front panel or rear panel with the unaided hand. A system part number shall be assigned to any such mainframe plug-in combination required to meet the requirements of this specification. The system part number shall be marked on the mainframe identification plate and any plug-in(s).

3.4.3 Controls. Unless otherwise specified herein, built-in adjustments and compensating devices shall not be externally accessible.

3.4.3.1 Front panel controls. All controls which are required to operate the equipment throughout its specified performance characteristics, shall be located on the front panel.

3.4.4 Accessibility. The equipment shall be constructed so that:

3.4.4.1 Subassemblies and chassis components can be removed without removing any other hard wired subassembly, printed circuit card or component.

3.4.4.2 Adjustments can be made without removing any component, printed circuit card or subassembly except the use of extender cards is permitted.

3.4.4.3 Printed circuit cards can be removed without the need to unsolder cables and interconnecting wiring (connections to all printed circuit cards shall be through pin and socket connectors). Printed circuit cards (mother boards) designed primarily to distribute power and signals to other printed cards (daughter boards) are excluded from this requirement. When such motherboards are used, they shall be accessible from both sides to allow maintenance testing.

3.4.4.4 Indicator lights. Unless approved by the procuring activity upon presentation of acceptable reliability data, indicator lights other than light emitting diodes (LEDs) shall be accessible from the operator's side of the front panel.

3.4.4.5 Encapsulation and embedment. Encapsulation and embedment (potting) of subassemblies shall not be used.

3.4.5 Solid State construction. Unless otherwise specified herein, the equipment shall be of solid-state, modular, miniaturized construction.

3.5 Electrical power sources and connections. Unless otherwise specified herein, the equipment shall comply with the Type II electrical power sources and connections requirements of MIL-T-28800. The equipment shall operate from a nominal 115/230 volts, single phase, 50, 60 and 400Hz source.

3.5.1 Maximum power. The maximum power consumption of the equipment shall be 240 watts.

3.5.2 Input power selection device. An input power selection device shall be provided for selection of input power voltages of 115 VAC or 230 VAC. Provision shall be incorporated to prevent accidental switching. When the equipment is delivered, the power selection device shall be in the 115 VAC position.

3.5.3 Fuses and circuit breakers. Fuses and circuit breakers shall be in accordance with MIL-T-28800. (115VAC/230VAC) Either common or separate fuseholders may be provided. If only one fuseholder is used (common), the equipment shall be provided with the 115VAC fuse installed and the 230VAC fuse shall be stowed with the accessories.

3.5.4 Input power switch. A front panel mounted power switch shall be provided. The ON position shall have panel identification lights for AC operation. The switch shall break both sides of the power source.

3.6 Dimensions and weight.

3.6.1 Dimensions. The overall dimensions shall be 305mm (12 in) maximum height, 533mm (21 in) maximum depth and the width of 482.6mm (19 in) as specified in MIL-T-28800 for rack-mounted equipment. A blank plate may be required to satisfy incremental height requirements.

3.6.2 Weight. The maximum weight of the equipment shall be 27KG (60 lbs).

3.7 Enclosure requirements. Unless otherwise specified herein, the equipment shall comply with the Style E enclosure requirements of MIL-T-28800.

3.8 Marking and identification. Unless otherwise specified herein, the equipment shall comply with the Type II marking and identification requirements of MIL-T-28800.

3.8.1 Supplemental identification plate. The supplemental identification plate specified in MIL-T-28800 shall contain the following data only:

- a. Nomenclature.
- b. Procurement instrument identification number (PIIN).
- c. Serial number
- d. National stock number.
- e. US

3.9 Environmental requirements. Unless otherwise specified herein, the equipment shall comply with the Class 5 environmental requirements of MIL-T-28800.



3.9.1 Electromagnetic interference. The equipment shall comply with the following emission and susceptibility requirements of Notice 4, MIL-STD-461.

CE02	CS02	RE02.1	RS03
CE04	CS06	RE02	

RE02.1 and RS03 shall be performed from (TBD) with RS03 at a susceptibility level of one volt per meter (1V/m).

3.9.2 Humidity. The equipment shall meet the humidity requirements in accordance with the test specified in paragraph 4.5.5.1.1.3 of MIL-T-28800.

3.9.3 Vibration. The equipment shall comply with the Class 5 vibration requirements of MIL-T-28800, except that the equipment need not be operating during vibration.

### 3.10 Reliability requirements.

3.10.1 Reliability burn-in. Each equipment delivered against this specification shall be submitted to a minimum 96-hour on-time burn-in procedure as specified in 4.4.4. The last 24 hours of burn-in shall be failure free.

3.10.2 Reliability. Reliability shall comply with requirements as specified herein. The specified MTBF shall be 2000 hours when tested as specified in 4.4.4. A failure shall be defined in MIL-STD-781, para 3.1, and as any departure from the required performance or operation of the required accuracies (not correctable by normal use of the operating controls) after the test is initiated. Test Level B, MIL-STD-781 shall be the required test level.

3.10.3 Maintainability requirements. The equipment shall comply with the Type II maintainability requirements of MIL-T-28800. (See 6.4)

### 3.11 Performance characteristics.

3.11.1 Output frequency. The output frequency range of the equipment, at a minimum, shall extend from 800 MHz to 2.4GHz. The accuracy of the output frequency shall be, at a minimum, within +/- 2 percent of the indicated frequency, with a maximum of 5 frequency bands.

3.11.1.1 Output frequency response. The output level shall not vary at a level greater than +/-1dB over any individual frequency band.

3.11.1.2 Frequency Shift. Deviation of the frequency spectrum up to and including 25KHz with any modulating frequency required in this specification shall not cause a carrier shift in excess of 0.005 percent.

3.11.1.3 RF drift due to temperature. The RF output shall not drift in excess of 0.01 percent during a one (1) hour period when tested in accordance with MIL-T-28800.

3.11.1.4 RF spurious output. The total harmonic content of the rf output shall be at least 30dB below the level of the unmodulated carrier.

3.11.1.5 RF noise level. The spurious fm on the unmodulated carrier shall not be greater than 25Hz at any frequency in the range of the equipment.

3.11.2 Amplitude Modulation - External. The equipment shall have the capability of amplitude modulation of the carrier by an external sine or square wave of at least 20Hz to 20KHz.

3.11.2.1 Amplitude Modulation - External Sensitivity. An external sine or square wave of less than 5 volts peak-to-peak shall produce a modulation level of at least 90 percent.

3.11.2.2 AM Internal Distortion. The distortion of the amplitude-modulated carrier shall not exceed 2 percent.

3.11.2.3 AM Spurious Modulation. The spurious amplitude modulation shall not exceed 5 percent, when the signal generator is frequency-modulated at any frequency with deviation set at 40KHz.

3.11.3 Amplitude Modulation - Internal. The internal amplitude modulation, sine or square wave frequencies shall at a minimum be selectable between the frequencies of 400Hz and 1000Hz. The accuracy will be within 10 percent.

3.11.3.1 RF Modulation Due to Vibration. The equipment, when vibrated along the vertical axis, shall not produce spurious frequency modulation of the RF output greater than 200 Hz deviation at 900, 1100, 1300, 1600, 2000, and 2200 MHz.

3.11.4 Frequency Modulation - Deviation. The equipment shall have both an internal and an external capability of 3KHz to 300KHz rms deviation.

3.11.4.1 FM Internal Distortion. The distortion of the modulated signal shall not exceed 2 percent at all frequencies and all deviations.

3.11.4.2 Modulation voltage. The voltage required to produce 10KHz deviation in the range from 100Hz to 15KHz shall not differ more than +/- 10 percent from the voltage required at 1000Hz, and shall not exceed +/- 20 percent from 15 KHz to 30KHz.

3.11.5 Pulse Modulation - External. The equipment shall have the capability to be pulse-modulated by an external source.

3.11.5.1 Standing Wave Ratio (SWR). The SWR at RF output levels shall be less than 2.0 to 1.

3.11.6 Pulse Modulation - Internal. The equipment shall contain an internal modulation source variable from 40 to 4000 pulses per second.

3.11.7 RF output voltage. The minimum output voltage shall be at least 0.5 volts rms across a 50 ohm load, within +/- 1dB of the indicated value.

3.11.8 Output Impedance. The output impedance of the equipment shall be 50 ohms.

3.11.9 Input impedance. The input impedance of the external AM input terminals shall be 600 ohms +/- 5 percent.

3.11.10 Output Attenuation. The output attenuation range shall be at least 100dB, with at least an additional 10dB vernier calibrated in 1dB steps. The output attenuation accuracy shall be +/- 0.2dB per step.

3.11.11 Primary Connectors. The input and output signal connectors shall be series "BNC" female except for the RF output, which shall be series "N" female.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspections required herein are classified as in a and b.

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.3).

4.3 First article and quality conformance inspection. Unless otherwise specified herein, the first article and quality conformance inspections shall be in accordance with MIL-T-28800.

4.3.1 Test plan. Unless otherwise stated in the contract, the contractor shall prepare a test plan in accordance with paragraphs 4.3(a) and 4.4(a) of MIL-T-28800, for use with both classes of inspection. The test plan shall include as a minimum the tests listed in TABLES I, II, & III, the tests noted in section 4.4, and a description of the satisfactory operation check and satisfactory operation test, as defined in para 4.5 of MIL-T-28800. Unless otherwise required, the tests and inspections to be performed shall be identical for both classes of inspection.

4.3.2 Inspection sampling plan. The inspection sampling to be performed during both classes of inspection shall be as specified in MIL-T-28800, except as indicated below:

4.3.2.1 Unless otherwise specified herein or in the contract, the Group C, D, E & F quality conformance inspections shall be performed on the first production lot only.

TABLE IExamination and Test Groups

DESCRIPTION	RQMT.	TEST METHOD
Group A Preoperational Inspection Leakage Current Level A Performance	4.5.3.1* 3.2.1.3.1* TABLE II	4.3.1
Group B Level B Performance	TABLE III	4.3.1
Group C Electrical Power Environmental Requirements Humidity Vibration	3.5 3.9 3.9.2 3.9.3	4.3.1
Group D Electromagnetic Interference	3.9.1	4.4.1
Group E Dimensions Weight Front Panel Marking	3.6.1 3.6.2 3.8	4.3.1 4.3.1
Group F Reliability	3.10	4.3.1, 4.4.4

\*Paragraphs of MIL-T-28800

MIL-X-XXXXX(EI)

TABLE II

Level A Performance Tests 1/

DESCRIPTION	REQUIREMENTS
Output Frequency	3.11.1
Amplitude Modulation - External	3.11.2
Amplitude Modulation - Internal	3.11.3
Frequency Modulation - Deviation	3.11.4
Pulse Modulation - External	3.11.5
Pulse Modulation - Internal	3.11.6
RF Output Voltage	3.11.7
Output Impedance	3.11.8
Input Impedance	3.11.9
Output Attenuation	3.11.10

1/ Level A testing is abbreviated testing (see 6.4.1)

TABLE III

Level B Performance Tests

DESCRIPTION	REQUIREMENTS
Output Frequency Response	3.11.1.1
Frequency Shift	3.11.1.2
RF Drift Due to Temperature	3.11.1.3
RF Spurious Output	3.11.1.4
RF Noise Level	3.11.1.5
Amplitude Modulation - External	
Sensitivity	3.11.2.1
AM Internal Distortion	3.11.2.2
AM Spurious Modulation	3.11.2.3
RF Modulation Due to Vibration	3.11.3.1
FM Internal Distortion	3.11.4.1
Modulation Voltage	3.11.4.2
Standing Wave Ratio (SWR)	3.11.5.1



4.3.2.2 The Group D EMI tests and Group F Reliability test shall be performed during quality conformance inspection only if not performed during first article or bid sampling testing.

4.4 Quality assurance tests. Unless otherwise specified herein, the following tests shall be performed in accordance with MIL-T-28800.

4.4.1 Electromagnetic interference. One equipment shall be subjected to an EMI test for compliance with the requirements of 3.9.1. All test set-ups and procedures shall comply with the measurement techniques of Notice 3, MIL-STD-462. All emission and susceptibility tests shall be performed with the output cable connected to, and extended parallel with, the front of the equipment. The output cable shall be terminated to simulate a normal loading configuration.

4.4.2 Humidity. The equipment shall be subjected to the humidity test specified in para 4.5.5.1.1.3 of MIL-T-28800.

4.4.3 Vibration. The equipment shall be subjected to the vibration tests specified in MIL-T-28800, for Class 5 equipment, except that the equipment shall not be operated during the test. The satisfactory operation test shall be performed prior to and following vibration testing.

4.4.4 Reliability. The reliability tests shall be performed as follows:

4.4.4.1 Burn-in. Each deliverable equipment shall be subjected to a minimum 96 hours on-time burn-in period, prior to Group A testing. During the last 24 hours of burn-in, the equipment must operate failure free. Up until this time, equipment will be allowed to accumulate failures. Each equipment which fails during the final 24 hour period shall be repaired and returned to test until it successfully survives a 24 hour period without failure. Failures which occur during the burn-in test shall be noted and reported, but shall not count toward the establishment of equipment MTBF. Prior to burn-in, the satisfactory operation test of 4.3.1 shall be conducted. Daily satisfactory operation checks (4.3.1) shall be conducted. For the last 24 hour failure free period, a complete satisfactory operation test shall be conducted prior to and after the period.

4.4.4.2 Reliability sampling plan.



4.4.4.2.1 First Article. The Group F reliability demonstration shall be conducted on at least five (5) samples. The use of ten (10) samples is encouraged, but not more than ten (10) samples shall be used.

4.4.4.2.2 Quality conformance inspection. The Group F reliability tests shall be performed on the first production lot, only if not performed during First Article testing. From those units of the first lot that have passed the required Group A and B tests, a random sample of ten (10) units shall be selected, for Group F testing.

4.4.4.2.3 Reliability test plan. The reliability tests shall be conducted in accordance with the following test plan:

	$\theta_o =$	
<u>Number of Failures</u>	<u>Accept** (Equal or More)</u>	<u>Total Test Time* Reject*** (Equal or Less)</u>
0		
1		
2		
3		
4		
5		
6		****

- \* Total test time is total unit hours of "equipment ON" time (in hours).  
 \*\* Accept if test time is greater than or equal to that listed.  
 \*\*\* Reject if test time is less than or equal to that listed.  
 \*\*\*\* Reject if test time is strictly less than \_\_\_\_\_ with 6 failures.

4.4.4.3 Test length. Testing shall continue until the total unit hours together with the total count of relevant equipment failures permit either an accept or reject decision in accordance with the specified test plan. Only equipment "ON" time may be used in MTBF or longevity determinations. Testing shall be monitored in such a manner that the times to failure may be estimated with reasonable accuracy. No single equipment "ON" time shall be less than one-half the average operating time of all equipments "ON" test.

4.4.4.4 Test conditions.

4.4.4.4.1 Operating mode (duty cycle).

4.4.4.4.2 Test level. While under test, the equipment shall be subjected to the conditions specified by Test Level B, MIL-STD-781.

4.4.4.4.3 Input voltage cycling. When so directed by the procuring activity, voltage cycling shall be accomplished as follows: The input voltage shall be maintained at one hundred ten percent (110%) nominal voltage for one-third of the equipment "ON" cycle, at the nominal value for the second one-third of the equipment "ON" cycle, and at ninety percent (90%) for the final one-third of the equipment "ON" cycle. This cycling procedure is to be repeated continuously throughout the reliability test.

4.4.4.5 Reliability examination and test method. The following inspections shall be used to verify equipment operation during reliability testing. The satisfactory operation test of 4.3.1 shall be used to confirm proper equipment operation prior to and following reliability testing. The satisfactory operation test shall also be performed weekly to verify equipment operation. The satisfactory operation check of 4.3.1 shall be used to monitor proper operation of the equipment daily.

4.4.4.6 Reliability failure actions, Group F. In the event of failure(s) during reliability testing, failure action shall be taken as required in MIL-STD-781, para 5.5.

4.4.4.7 Corrective action, Group F. In the event the reliability test reaches a reject decision, corrective action shall be taken as required in MIL-STD-781, para 5.7.

4.4.5 Optional quality assurance system. The procuring activity may substitute tests from a Department of Defense (DoD) approved supplier's quality assurance system for any or all tests in TABLE I.

5. PACKAGING

5.1 Preservation, packaging. Packaging for delivery shall be in accordance with MIL-T-28800 and as specified by the procuring activity.

6. NOTES

6.1 Intended use. The equipment is intended for use in maintaining electronic communications equipment by equipment repair units in intermediate and depot maintenance.

6.1.1 Equipment replaced. Equipment procured according to this specification is intended to replace all versions of various older equipments now fielded. These equipments to be replaced are listed below:

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification and any amendment thereto.
- b. Packaging requirements (see Section 5).
- c. When rough handling and functional tests are required.
- d. Place of final inspection.
- e. Technical literature required.
- f. Quantity of tools and running spare parts required.
- g. Marking for shipment and shipping containers.
- h. Test plans and test reports.
- i. Classification of inspection and number of samples required.
- j. Rack mounting requirements.
- k. Alternate power requirements.
- l. Maintainability rationale.
- m. Reliability rationale.

6.3 Contract data requirements.

- a. Nomenclature assignment.
- b. National stock number.
- c. Equipment sample test plans.
- d. Pretest performance records.
- e. First production test data.
- f. Identification plate drawing.

#### 6.4 Definitions.

6.4.1 Level A performance tests. Level A testing (TABLE II) is a reduced amount of testing which is performed on each equipment produced. Its purpose is to insure that all functions and modes of operation of the equipment are evaluated without extensively checking each parameter as required in the Level B test (TABLE III). The approved equipment test procedure shall specify the actual amount of testing to be performed.

6.4.2 Reliability rationale. Reliability rationale submitted with the bid should provide clear and concise rationale showing how the reliability of the equipment complies with minimum requirements of the solicitation. This may include data from previous reliability tests, reliability predictions and other data available to the offeror. In the absence of such data on the equipment being offered, such data on similar equipment of equal or greater complexity produced by the offeror may be submitted. However, such data must be clearly identified as comparative data, and accomplished with specifications and technical literature on the similar equipment. The acceptance of the submitted rationale does not relieve the successful bidder of performing and successfully completing the production reliability testing.

6.4.3 Maintainability rationale. Maintainability rationale submitted with the bid should provide clear and concise rationale showing how the maintainability of the equipment complies with requirements of the solicitation. This may include data from previous maintainability tests, records of repair and calibration data, and other data on the equipment available to the offeror. Data on selection of module size and other design features relevant to maintainability may also be submitted.

Custodian:

Army - EL

Preparing Activity:

Army - EL

Review Activities:

Army -

(Project 6625-

User Activities:

Army -

*APPENDIX E*

MILITARY (OTS ETE) SPECIFICATION  
GENERATOR, SIGNAL, VHF

Off-the-Shelf (OTS)  
Test Equipment Specification

MIL-X-XXXXX (EL)

12 April 1978

MILITARY SPECIFICATION

This specification is approved for use by the Communications Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification defines a Generator, Signal, VHF hereinafter called the equipment.

1.2 Classification. The equipment defined by this specification shall be Type II, Class 5, Style E, Color R per MIL-T-28800 and as herein with the convertible/rack-mountable capability.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on the date of invitation for bids, or the request for proposal, form a part of this specification to the extent specified herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U. S. Army Communications Research and Development Command, Fort Monmouth, New Jersey 07703 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6625

MIL-X-XXXXX (EL)

## SPECIFICATIONS

### MILITARY

MIL-T-28800	Test Equipment for Use with Electrical and Electronic Equipment, General Specification for
-------------	--

## STANDARDS

### MILITARY

MIL-STD-461	Electromagnetic Interference Characteristics, Requirements for Equipments
MIL-STD-462	Electromagnetic Interference Characteristics, Measurement of
MIL-STD-781	Reliability Tests, Exponential Distribution

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

## 3. REQUIREMENTS

3.1 Classification of requirements. The requirements for the equipment are classified as follows:

<u>REQUIREMENT</u>	<u>PARAGRAPH</u>
Safety	3.2
Parts, materials and processes	3.3
Design and construction	3.4
Electrical power sources and connections	3.5
Dimensions and weight	3.6
Enclosure requirements	3.7
Marking and identification	3.8
Environmental requirements	3.9
Reliability requirements	3.10
Performance characteristics	3.11



3.2 Safety. Unless otherwise specified herein, the equipment shall comply with the Type II safety requirements specified in MIL-T-28800.

3.3 Parts, materials and processes. Unless otherwise specified herein, the equipment shall comply with the Type II parts, materials and processes requirements of MIL-T-28800.

3.3.1 Restricted materials. Equipment shall comply with the restricted material requirements of MIL-T-28800 including the requirement for mercury or radioactive materials and shall contain no combination of materials which cause deterioration of any material contained in the equipment due to effects of outgassing.

3.4 Design and construction. Unless otherwise specified herein, the equipment shall comply with the Type II, Class 5, Style E, Color R, design and construction requirements of MIL-T-28800 with the convertible/rack-mountable capability.

3.4.1 First article. When specified, the contractor shall furnish five sample equipments for first article inspection and approval. (See 4.3 and 6.2)

3.4.2 Mainframe plug-in concept. Equipment utilizing externally accessible, externally removable subassemblies (mainframe plug-in concept) do not meet the requirements of this specification and therefore are unacceptable. Items using this concept may be offered, provided the plug-in(s) shall not be removable by access through the front panel or rear panel with the unaided hand. A system part number shall be assigned to any such mainframe plug-in combination required to meet the requirements of this specification. The system part number shall be marked on the mainframe identification plate and any plug-in(s).

3.4.3 Controls. Unless otherwise specified herein, built-in adjustments and compensating devices shall not be externally accessible.

3.4.3.1 Front panel controls. All controls which are required to operate the equipment throughout its specified performance characteristics, shall be located on the front panel.

3.4.4 Accessibility. The equipment shall be constructed so that:

3.4.4.1 Subassemblies and chassis components can be removed without removing any other hard wired subassembly, printed circuit card or component.

3.4.4.2 Adjustments can be made without removing any component, printed circuit card or subassembly except the use of extender cards is permitted.

3.4.4.3 Printed circuit cards can be removed without the need to unsolder cables and interconnecting wiring (connections to all printed circuit cards shall be through pin and socket connectors). Printed circuit cards (mother boards) designed primarily to distribute power and signals to other printed cards (daughter boards) are excluded from this requirement. When such mother-boards are used, they shall be accessible from both sides to allow maintenance testing.

3.4.4.4 Indicator lights. Unless approved by the procuring activity upon presentation of acceptable reliability data, indicator lights other than light emitting diodes (LEDs) shall be accessible from the operator's side of the front panel.

3.4.4.5 Encapsulation and embedment. Encapsulation and embedment (potting) of subassemblies shall not be used.

3.4.5 Solid State construction. Unless otherwise specified herein, the equipment shall be of solid-state, modular, miniaturized construction.

3.5 Electrical power sources and connections. Unless otherwise specified herein, the equipment shall comply with the Type II electrical power sources and connections requirements of MIL-T-28800. The equipment shall operate from a nominal 115/230 volts, single phase, 50, 60 and 400Hz source.

3.5.1 Maximum power. The maximum power consumption of the equipment shall be 125 watts.

3.5.2 Input power selection device. An input power selection device shall be provided for selection of input power voltages of 115 VAC or 230 VAC. Provision shall be incorporated to prevent accidental switching. When the equipment is delivered, the power selection device shall be in the 115 VAC position.

3.5.3 Fuses and circuit breakers. Fuses and circuit breakers shall be in accordance with MIL-T-28800. (115VAC/230VAC) Either common or separate fuseholders may be provided. If only one fuseholder is used (common), the equipment shall be provided with the 115VAC fuse installed and the 230VAC fuse shall be stowed with the accessories.

3.5.4 Input power switch. A front panel mounted power switch shall be provided. The ON position shall have panel identification lights for AC operation. The switch shall break both sides of the power source.

3.6 Dimensions and weight.

3.6.1 Dimensions. The overall dimensions shall be 609.6mm (24 in) maximum height, 533.4mm (21 in) maximum depth and the width of 482.6mm (19 in) as specified in MIL-T-28800 for rack-mounted equipment. A blank plate may be required to satisfy incremental height requirements.

3.6.2 Weight. The maximum weight of the equipment shall be 22.7KG (50 lbs).

3.7 Enclosure requirements. Unless otherwise specified herein, the equipment shall comply with the Style E enclosure requirements of MIL-T-28800.

3.8 Marking and identification. Unless otherwise specified herein, the equipment shall comply with the Type II marking and identification requirements of MIL-T-28800.

3.8.1 Supplemental identification plate. The supplemental identification plate specified in MIL-T-28800 shall contain the following data only:

- a. Nomenclature.
- b. Procurement instrument identification number (PIIN).
- c. Serial number
- d. National stock number.
- e. US

3.9 Environmental requirements. Unless otherwise specified herein, the equipment shall comply with the Class 5 environmental requirements of MIL-T-28800.

3.9.1 Electromagnetic interference. The equipment shall comply with the following emission and susceptibility requirements of Notice 4, MIL-STD-461.

CE02	CS02	RE02.1	RS03
CE04	CS06	RE02	

RE02.1 and RS03 shall be performed from (TBD) with RS03 at a susceptibility level of one volt per meter (1V/m).

3.9.2 Humidity. The equipment shall meet the humidity requirements in accordance with the test specified in paragraph 4.5.5.1.1.3 of MIL-T-28800.

3.9.3 Vibration. The equipment shall comply with the Class 5 vibration requirements of MIL-T-28800, except that the equipment need not be operating during vibration.

### 3.10 Reliability requirements.

3.10.1 Reliability burn-in. Each equipment delivered against this specification shall be submitted to a minimum 96-hour on-time burn-in procedure as specified in 4.4.4. The last 24 hours of burn-in shall be failure free.

3.10.2 Reliability. Reliability shall comply with requirements as specified herein. The specified MTBF shall be 2000 hours when tested as specified in 4.4.4. A failure shall be defined in MIL-STD-781, para 3.1, and as any departure from the required performance or operation of the required accuracies (not correctable by normal use of the operating controls) after the test is initiated. Test Level B, MIL-STD-781 shall be the required test level.

3.10.3 Maintainability requirements. The equipment shall comply with the Type II maintainability requirements of MIL-T-28800. (See 6.4)

### 3.11 Performance characteristics.

3.11.1 Output frequency. The output frequency range of the equipment, at a minimum, shall extend from 400 KHz to 512 MHz. The minimum required accuracy of +/-0.5 percent of the output frequency, with a maximum of six frequency bands.

3.11.1.1 Output frequency response. The output level shall not vary more than +/-2dB over any individual frequency band.

3.11.1.2 RF spurious output. The total harmonic content of the rf output shall be at least 40 dB below the level of the unmodulated carrier.

3.11.1.3 RF noise level. The RF noise level shall be at least 35 dB below the level of the unmodulated carrier.

3.11.2 Amplitude modulation. The equipment shall have the capability of amplitude modulation of the carrier by an internal and external sine or square wave of at least 20Hz to 20KHz.

3.11.2.1 External AM sensitivity. An external sine or square wave of less than 5 volts peak-to-peak shall produce a modulation level of at least 95 percent.

3.11.2.2 Percent modulation. The equipment shall be capable of 0 to at least 95 percent amplitude modulation by both an external audio tone and an internal audio tone.

3.11.3 Amplitude modulation, internal. The internal amplitude modulation frequencies shall, at a minimum, be selectable between the frequencies of 400 Hz and 1000 Hz.

3.11.3.1 Modulation distortion. The distortion of the amplitude-modulated carrier shall not exceed 2 percent.

3.11.4 Pulse modulation (PM). The equipment shall be capable of being pulse-modulated by an internal and external signal at repetition rates of 50 to 5000 pulses per second and pulse widths of 10 to 40 microseconds.

3.11.5 FM deviation. The equipment shall have both an internal and external capability of 0 to 40KHz rms deviation.

3.11.5.1 FM internal spurious AM. The spurious amplitude-modulation shall not exceed 5 percent, when the signal generator is frequency-modulated at any frequency with deviation set at 40 Hz.

3.11.5.2 Carrier frequency shift. Deviation of the frequency spectrum up to and including 25KHz with any modulating frequency required in this specification shall not cause a carrier shift in excess of 0.005 percent of the carrier frequency.

3.11.5.3 Modulation voltage. The voltage required to produce 10KHz deviation in the range from 100Hz to 15KHz shall not differ more than +/- 10 percent from the voltage required at 1000Hz and shall not exceed +/- 20 percent from 15 KHz

3.11.6 RF voltage output. The minimum output voltage shall be variable from 0.1 microvolt to 1.0 volt rms across a 50 ohm load, and the accuracy shall be within +/- 1dB of the indicated value.

3.11.6.1 Standing wave ratio (SWR). The SWR of the RF output level shall be less than 1.2.

3.11.7 Output attenuation. The output attenuation range shall be at least 120dB, with at least an additional 10dB vernier calibrated in 1dB steps, with an accuracy of +/- 0.2dB or better.



3.11.8 Output impedance. The output impedance of the equipment shall be 50 ohms.

3.11.9 Input impedance. The input impedance of the equipment shall be 600 ohms.

3.11.10 Primary connectors. The input and output connectors shall be series "BNC" female, except for the RF Output, which shall be series "N" female.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspections required herein are classified as in a and b.

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.3).

4.3 First article and quality conformance inspection. Unless otherwise specified herein, the first article and quality conformance inspections shall be in accordance with MIL-T-28800.

4.3.1 Test plan. Unless otherwise stated in the contract, the contractor shall prepare a test plan in accordance with paragraphs 4.3(a) and 4.4(a) of MIL-T-28800, for use with both classes of inspection. The test plan shall include as a minimum the tests listed in TABLES I, II, & III, the tests noted in section 4.4, and a description of the satisfactory operation check and satisfactory operation test, as defined in para 4.5 of MIL-T-28800. Unless otherwise required, the tests and inspections to be performed shall be identical for both classes of inspection.

4.3.2 Inspection sampling plan. The inspection sampling to be performed during both classes of inspection shall be as specified in MIL-T-28800, except as indicated below:

4.3.2.1 Unless otherwise specified herein or in the contract, the Group C, D, E & F quality conformance inspections shall be performed on the first production lot only.

TABLE IExamination and Test Groups

DESCRIPTION	RQMT.	TEST METHOD
Group A Preoperational Inspection Leakage Current Level A Performance	4.5.3.1* 3.2.1.3.1* TABLE II	4.3.1
Group B Level B Performance	TABLE III	4.3.1
Group C Electrical Power Environmental Requirements Humidity Vibration	3.5 3.9 3.9.2 3.9.3	4.3.1
Group D Electromagnetic Interference	3.9.1	4.4.1
Group E Dimensions Weight Front Panel Marking	3.6.1 3.6.2 3.8	4.3.1 4.3.1
Group F Reliability	3.10	4.3.1, 4.4.4

\*Paragraphs of MIL-T-28800



TABLE IILevel A Performance Tests 1/

DESCRIPTION	REQUIREMENTS
Output Frequency	3.11.1
Amplitude Modulation	3.11.2
Amplitude Modulation-Internal	3.11.3
Pulse Modulation (PM) Int and Ext	3.11.4
FM Deviation	3.11.5
RF Voltage Output	3.11.6
Output Attenuation	3.11.7
Output Impedance	3.11.8
Input Impedance	3.11.9

1/ Level A testing is abbreviated testing (see 6.4.1)

TABLE IIILevel B Performance Tests

DESCRIPTION	REQUIREMENTS
Output Frequency Response	3.11.1.1
RF Spurious Output	3.11.1.2
RT Noise Level	3.11.1.3
External AM Sensitivity	3.11.2.1
Percent Modulation	3.11.2.2
Modulation Distortion	3.11.3.1
FM Internal Spurious AM	3.11.5.1
Carrier Frequency Shift	3.11.5.2
Modulation Voltage	3.11.5.3
Standing Wave Ratio (SWR)	3.11.6.1

4.3.2.2 The Group D EMI tests and Group F Reliability test shall be performed during quality conformance inspection only if not performed during first article or bid sampling testing.

4.4 Quality assurance tests. Unless otherwise specified herein, the following tests shall be performed in accordance with MIL-T-28800.

4.4.1 Electromagnetic interference. One equipment shall be subjected to an EMI test for compliance with the requirements of 3.9.1. All test set-ups and procedures shall comply with the measurement techniques of Notice 3, MIL-STD-462. All emission and susceptibility tests shall be performed with the output cable connected to, and extended parallel with, the front of the equipment. The output cable shall be terminated to simulate a normal loading configuration.

4.4.2 Humidity. The equipment shall be subjected to the humidity test specified in para 4.5.5.1.1.3 of MIL-T-28800.

4.4.3 Vibration. The equipment shall be subjected to the vibration tests specified in MIL-T-28800, for Class 5 equipment, except that the equipment shall not be operated during the test. The satisfactory operation test shall be performed prior to and following vibration testing.

4.4.4 Reliability. The reliability tests shall be performed as follows:

4.4.4.1 Burn-in. Each deliverable equipment shall be subjected to a minimum 96 hours on-time burn-in period, prior to Group A testing. During the last 24 hours of burn-in, the equipment must operate failure free. Up until this time, equipment will be allowed to accumulate failures. Each equipment which fails during the final 24 hour period shall be repaired and returned to test until it successfully survives a 24 hour period without failure. Failures which occur during the burn-in test shall be noted and reported, but shall not count toward the establishment of equipment MTBF. Prior to burn-in, the satisfactory operation test of 4.3.1 shall be conducted. Daily satisfactory operation checks (4.3.1) shall be conducted. For the last 24 hour failure free period, a complete satisfactory operation test shall be conducted prior to and after the period.

4.4.4.2 Reliability sampling plan.

4.4.4.2.1 First Article. The Group F reliability demonstration shall be conducted on at least five (5) samples. The use of ten (10) samples is encouraged, but not more than ten (10) samples shall be used.

4.4.4.2.2 Quality conformance inspection. The Group F reliability tests shall be performed on the first production lot, only if not performed during First Article testing. From those units of the first lot that have passed the required Group A and B tests, a random sample of ten (10) units shall be selected, for Group F testing.

4.4.4.2.3 Reliability test plan. The reliability tests shall be conducted in accordance with the following test plan:

$$\theta_o =$$

<u>Number of Failures</u>	<u>Accept** (Equal or More)</u>	<u>Total Test Time* Reject*** (Equal or Less)</u>
0		
1		
2		
3		
4		
5		
6		****

\* Total test time is total unit hours of "equipment ON" time (in hours).

\*\* Accept if test time is greater than or equal to that listed.

\*\*\* Reject if test time is less than or equal to that listed.

\*\*\*\* Reject if test time is strictly less than \_\_\_\_\_ with 6 failures.

4.4.4.3 Test length. Testing shall continue until the total unit hours together with the total count of relevant equipment failures permit either an accept or reject decision in accordance with the specified test plan. Only equipment "ON" time may be used in MTBF or longevity determinations. Testing shall be monitored in such a manner that the times to failure may be estimated with reasonable accuracy. No single equipment "ON" time shall be less than one-half the average operating time of all equipments "ON" test.

#### 4.4.4.4 Test conditions.

##### 4.4.4.4.1 Operating mode (duty cycle).

4.4.4.4.2 Test level. While under test, the equipment shall be subjected to the conditions specified by Test Level B, MIL-STD-781.

4.4.4.4.3 Input voltage cycling. When so directed by the procuring activity, voltage cycling shall be accomplished as follows: The input voltage shall be maintained at one hundred ten percent (110%) nominal voltage for one-third of the equipment "ON" cycle, at the nominal value for the second one-third of the equipment "ON" cycle, and at ninety percent (90%) for the final one-third of the equipment "ON" cycle. This cycling procedure is to be repeated continuously throughout the reliability test.

4.4.4.5 Reliability examination and test method. The following inspections shall be used to verify equipment operation during reliability testing. The satisfactory operation test of 4.3.1 shall be used to confirm proper equipment operation prior to and following reliability testing. The satisfactory operation test shall also be performed weekly to verify equipment operation. The satisfactory operation check of 4.3.1 shall be used to monitor proper operation of the equipment daily.

4.4.4.6 Reliability failure actions, Group F. In the event of failure(s) during reliability testing, failure action shall be taken as required in MIL-STD-781, para 5.5.

4.4.4.7 Corrective action, Group F. In the event the reliability test reaches a reject decision, corrective action shall be taken as required in MIL-STD-781, para 5.7.

4.4.5 Optional quality assurance system. The procuring activity may substitute tests from a Department of Defense (DoD) approved supplier's quality assurance system for any or all tests in TABLE I.

## 5. PACKAGING

5.1 Preservation, packaging. Packaging for delivery shall be in accordance with MIL-T-28800 and as specified by the procuring activity.

6. NOTES

6.1 Intended use. The equipment is intended for use in maintaining electronic communications equipment by equipment repair units in intermediate and depot maintenance.

6.1.1 Equipment replaced. Equipment procured according to this specification is intended to replace all versions of various older equipments now fielded. These equipments to be replaced are listed below:

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification and any amendment thereto.
- b. Packaging requirements (see Section 5).
- c. When rough handling and functional tests are required.
- d. Place of final inspection.
- e. Technical literature required.
- f. Quantity of tools and running spare parts required.
- g. Marking for shipment and shipping containers.
- h. Test plans and test reports.
- i. Classification of inspection and number of samples required.
- j. Rack mounting requirements.
- k. Alternate power requirements.
- l. Maintainability rationale.
- m. Reliability rationale.

6.3 Contract data requirements.

- a. Nomenclature assignment.
- b. National stock number.
- c. Equipment sample test plans.
- d. Pretest performance records.
- e. First production test data.
- f. Identification plate drawing.

#### 6.4 Definitions.

6.4.1 Level A performance tests. Level A testing (TABLE II) is a reduced amount of testing which is performed on each equipment produced. Its purpose is to insure that all functions and modes of operation of the equipment are evaluated without extensively checking each parameter as required in the Level B test (TABLE III). The approved equipment test procedure shall specify the actual amount of testing to be performed.

6.4.2 Reliability rationale. Reliability rationale submitted with the bid should provide clear and concise rationale showing how the reliability of the equipment complies with minimum requirements of the solicitation. This may include data from previous reliability tests, reliability predictions and other data available to the offeror. In the absence of such data on the equipment being offered, such data on similar equipment of equal or greater complexity produced by the offeror may be submitted. However, such data must be clearly identified as comparative data, and accomplished with specifications and technical literature on the similar equipment. The acceptance of the submitted rationale does not relieve the successful bidder of performing and successfully completing the production reliability testing.

6.4.3 Maintainability rationale. Maintainability rationale submitted with the bid should provide clear and concise rationale showing how the maintainability of the equipment complies with requirements of the solicitation. This may include data from previous maintainability tests, records of repair and calibration data, and other data on the equipment available to the offeror. Data on selection of module size and other design features relevant to maintainability may also be submitted.

#### Custodian:

Army - EL

#### Preparing Activity:

Army - EL

#### Review Activities:

Army -

(Project 6625-

#### User Activities:

Army -

*APPENDIX F*

MILITARY (OTS ETE) SPECIFICATION  
STROBOSCOPE



Off-the-Shelf (OTS)  
Test Equipment Specification

MIL-X-XXXXX(EL)

12 April 1978

MILITARY SPECIFICATION

This specification is approved for use by the Communications Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification defines a Stroboscope hereinafter called the equipment.

1.2 Classification. The equipment defined by this specification shall be Type II, Class 5, Style E, Color R per MIL-T-28800 and as herein with the convertible/rack-mountable capability.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on the date of invitation for bids, or the request for proposal, form a part of this specification to the extent specified herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U. S. Army Communications Research and Development Command, Fort Monmouth, New Jersey 07703 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6625

MIL-X-XXXXX (EL)

## SPECIFICATIONS

### MILITARY

MIL-T-28800	Test Equipment for Use with Electrical and Electronic Equipment, General Specification for
-------------	--

## STANDARDS

### MILITARY

MIL-STD-461	Electromagnetic Interference Characteristics, Requirements for Equipments
MIL-STD-462	Electromagnetic Interference Characteristics, Measurement of
MIL-STD-781	Reliability Tests, Exponential Distribution

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

## 3. REQUIREMENTS

3.1 Classification of requirements. The requirements for the equipment are classified as follows:

<u>REQUIREMENT</u>	<u>PARAGRAPH</u>
Safety	3.2
Parts, materials and processes	3.3
Design and construction	3.4
Electrical power sources and connections	3.5
Dimensions and weight	3.6
Enclosure requirements	3.7
Marking and identification	3.8
Environmental requirements	3.9
Reliability requirements	3.10
Performance characteristics	3.11

3.2 Safety. Unless otherwise specified herein, the equipment shall comply with the Type II safety requirements specified in MIL-T-28800.

3.3 Parts, materials and processes. Unless otherwise specified herein, the equipment shall comply with the Type II parts, materials and processes requirements of MIL-T-28800.

3.3.1 Restricted materials. Equipment shall comply with the restricted material requirements of MIL-T-28800 including the requirement for mercury or radioactive materials and shall contain no combination of materials which cause deterioration of any material contained in the equipment due to effects of outgassing.

3.4 Design and construction. Unless otherwise specified herein, the equipment shall comply with the Type II, Class 5, Style E, Color R, design and construction requirements of MIL-T-28800 with the convertible/rack-mountable capability.

3.4.1 First article. When specified, the contractor shall furnish five sample equipments for first article inspection and approval. (See 4.3 and 6.2)

3.4.2 Mainframe plug-in concept. Equipment utilizing externally accessible, externally removable subassemblies (mainframe plug-in concept) do not meet the requirements of this specification and therefore are unacceptable. Items using this concept may be offered, provided the plug-in(s) shall not be removable by access through the front panel or rear panel with the unaided hand. A system part number shall be assigned to any such mainframe plug-in combination required to meet the requirements of this specification. The system part number shall be marked on the mainframe identification plate and any plug-in(s).

3.4.3 Controls. Unless otherwise specified herein, built-in adjustments and compensating devices shall not be externally accessible.

3.4.3.1 Front panel controls. All controls which are required to operate the equipment throughout its specified performance characteristics, shall be located on the front panel.

3.4.4 Accessibility. The equipment shall be constructed so that:

3.4.4.1 Subassemblies and chassis components can be removed without removing any other hard wired subassembly, printed circuit card or component.

3.4.4.2 Adjustments can be made without removing any component, printed circuit card or subassembly except the use of extender cards is permitted.

3.4.4.3 Printed circuit cards can be removed without the need to unsolder cables and interconnecting wiring (connections to all printed circuit cards shall be through pin and socket connectors). Printed circuit cards (mother boards) designed primarily to distribute power and signals to other printed cards (daughter boards) are excluded from this requirement. When such motherboards are used, they shall be accessible from both sides to allow maintenance testing.

3.4.4.4 Indicator lights. Unless approved by the procuring activity upon presentation of acceptable reliability data, indicator lights other than light emitting diodes (LEDs) shall be accessible from the operator's side of the front panel.

3.4.4.5 Encapsulation and embedment. Encapsulation and embedment (potting) of subassemblies shall not be used.

3.4.5 Solid State construction. Unless otherwise specified herein, the equipment shall be of solid-state, modular, miniaturized construction.

3.5 Electrical power sources and connections. Unless otherwise specified herein, the equipment shall comply with the Type II electrical power sources and connections requirements of MIL-T-28800. The equipment shall operate from a nominal 115/230 volts, single phase, 50, 60 and 400Hz source.

3.5.1 Maximum power. The maximum power consumption of the equipment shall be 30 watts.

3.5.2 Input power selection device. An input power selection device shall be provided for selection of input power voltages of 115 VAC or 230 VAC. Provision shall be incorporated to prevent accidental switching. When the equipment is delivered, the power selection device shall be in the 115 VAC position.

3.5.3 Fuses and circuit breakers. Fuses and circuit breakers shall be in accordance with MIL-T-28800. (115VAC/230VAC) Either common or separate fuseholders may be provided. If only one fuseholder is used (common), the equipment shall be provided with the 115VAC fuse installed and the 230VAC fuse shall be stowed with the accessories.

3.5.4 Input power switch. A front panel mounted power switch shall be provided. The ON position shall have panel identification lights for AC operation. The switch shall break both sides of the power source.

3.6 Dimensions and weight.

3.6.1 Dimensions. The overall dimensions shall be 203mm (8 in) maximum height, 381mm (15 in) maximum depth and the width of 305mm (12 in) or as specified in MIL-T-28800 for rack-mounted equipment. A blank plate may be required to satisfy incremental height requirements.

3.6.2 Weight. The maximum weight of the equipment shall be 5.44KG (12 lbs).

3.7 Enclosure requirements. Unless otherwise specified herein, the equipment shall comply with the Style E enclosure requirements of MIL-T-28800.

3.8 Marking and identification. Unless otherwise specified herein, the equipment shall comply with the Type II marking and identification requirements of MIL-T-28800.

3.8.1 Supplemental identification plate. The supplemental identification plate specified in MIL-T-28800 shall contain the following data only:

- a. Nomenclature.
- b. Procurement instrument identification number (PIIN).
- c. Serial number
- d. National stock number.
- e. US

3.9 Environmental requirements. Unless otherwise specified herein, the equipment shall comply with the Class 5 environmental requirements of MIL-T-28800.

3.9.1 Electromagnetic interference. The equipment shall comply with the following emission and susceptibility requirements of Notice 4, MIL-STD-461.

CE02	CS02	RE02.1	RS03
CE04	CS06	RE02	

RE02.1 and RS03 shall be performed from (TBD) with RS03 at a susceptibility level of one volt per meter (1V/m).

3.9.2 Humidity. The equipment shall meet the humidity requirements in accordance with the test specified in paragraph 4.5.5.1.1.3 of MIL-T-28800.

3.9.3 Vibration. The equipment shall comply with the Class 5 vibration requirements of MIL-T-28800, except that the equipment need not be operating during vibration.

### 3.10 Reliability requirements.

3.10.1 Reliability burn-in. Each equipment delivered against this specification shall be submitted to a minimum 96-hour on-time burn-in procedure as specified in 4.4.4. The last 24 hours of burn-in shall be failure free.

3.10.2 Reliability. Reliability shall comply with requirements as specified herein. The specified MTBF shall be 2000 hours when tested as specified in 4.4.4. A failure shall be defined in MIL-STD-781, para 3.1, and as any departure from the required performance or operation of the required accuracies (not correctable by normal use of the operating controls) after the test is initiated. Test Level B, MIL-STD-781 shall be the required test level.

3.10.3 Maintainability requirements. The equipment shall comply with the Type II maintainability requirements of MIL-T-28800. (See 6.4)

### 3.11 Performance characteristics.

3.11.1 Flash Characteristics. The flash rate of the equipment shall as a minimum extend from 60 to 150,000 flashes per minute, with an accuracy of +/- 1 percent, and with no more than 4 ranges.

3.11.1.1 Light beam intensity. The light beam intensity of the equipment shall be a minimum of  $0.5 \times 10$  candelas when measured at a distance of 1 meter from the lamp.



3.11.1.2 Synchronization input. The equipment shall include provision for synchronization from external signals.

3.11.2 Primary connectors. The input and output connectors shall be compatible with tip-ring sleeve audio plugs.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspections required herein are classified as in a and b.

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.3).

4.3 First article and quality conformance inspection. Unless otherwise specified herein, the first article and quality conformance inspections shall be in accordance with MIL-T-28800.

4.3.1 Test plan. Unless otherwise stated in the contract, the contractor shall prepare a test plan in accordance with paragraphs 4.3(a) and 4.4(a) of MIL-T-28800, for use with both classes of inspection. The test plan shall include as a minimum the tests listed in TABLES I, II, & III, the tests noted in section 4.4, and a description of the satisfactory operation check and satisfactory operation test, as defined in para 4.5 of MIL-T-28800. Unless otherwise required, the tests and inspections to be performed shall be identical for both classes of inspection.

4.3.2 Inspection sampling plan. The inspection sampling to be performed during both classes of inspection shall be as specified in MIL-T-28800, except as indicated below:

4.3.2.1 Unless otherwise specified herein or in the contract, the Group C, D, E & F quality conformance inspections shall be performed on the first production lot only.



TABLE IExamination and Test Groups

DESCRIPTION	RQMT.	TEST METHOD
Group A Preoperational Inspection Leakage Current Level A Performance	4.5.3.1* 3.2.1.3.1* TABLE II	4.3.1
Group B Level B Performance	TABLE III	4.3.1
Group C Electrical Power Environmental Requirements Humidity Vibration	3.5 3.9 3.9.2 3.9.3	4.3.1
Group D Electromagnetic Interference	3.9.1	4.4.1
Group E Dimensions Weight Front Panel Marking	3.6.1 3.6.2 3.8	4.3.1 4.3.1
Group F Reliability	3.10	4.3.1, 4.4.4

\*Paragraphs of MIL-T-28800

TABLE II

Level A Performance Tests 1/

DESCRIPTION	REQUIREMENTS
Flash Characteristics	3.11.1

1/ Level A testing is abbreviated testing (see 6.4.1)

TABLE III

Level B Performance Tests

DESCRIPTION	REQUIREMENTS
Light Beam Intensity	3.11.1.1
Synchronization Input	3.11.1.2

4.3.2.2 The Group D EMI tests and Group F Reliability test shall be performed during quality conformance inspection only if not performed during first article or bid sampling testing.

4.4 Quality assurance tests. Unless otherwise specified herein, the following tests shall be performed in accordance with MIL-T-28800.

4.4.1 Electromagnetic interference. One equipment shall be subjected to an EMI test for compliance with the requirements of 3.9.1. All test set-ups and procedures shall comply with the measurement techniques of Notice 3, MIL-STD-462. All emission and susceptibility tests shall be performed with the output cable connected to, and extended parallel with, the front of the equipment. The output cable shall be terminated to simulate a normal loading configuration.

4.4.2 Humidity. The equipment shall be subjected to the humidity test specified in para 4.5.5.1.1.3 of MIL-T-28800.

4.4.3 Vibration. The equipment shall be subjected to the vibration tests specified in MIL-T-28800, for Class 5 equipment, except that the equipment shall not be operated during the test. The satisfactory operation test shall be performed prior to and following vibration testing.

4.4.4 Reliability. The reliability tests shall be performed as follows:

4.4.4.1 Burn-in. Each deliverable equipment shall be subjected to a minimum 96 hours on-time burn-in period, prior to Group A testing. During the last 24 hours of burn-in, the equipment must operate failure free. Up until this time, equipment will be allowed to accumulate failures. Each equipment which fails during the final 24 hour period shall be repaired and returned to test until it successfully survives a 24 hour period without failure. Failures which occur during the burn-in test shall be noted and reported, but shall not count toward the establishment of equipment MTBF. Prior to burn-in, the satisfactory operation test of 4.3.1 shall be conducted. Daily satisfactory operation checks (4.3.1) shall be conducted. For the last 24 hour failure free period, a complete satisfactory operation test shall be conducted prior to and after the period.

4.4.4.2 Reliability sampling plan.

4.4.4.2.1 First Article. The Group F reliability demonstration shall be conducted on at least five (5) samples. The use of ten (10) samples is encouraged, but not more than ten (10) samples shall be used.

4.4.4.2.2 Quality conformance inspection. The Group F reliability tests shall be performed on the first production lot, only if not performed during First Article testing. From those units of the first lot that have passed the required Group A and B tests, a random sample of ten (10) units shall be selected, for Group F testing.

4.4.4.2.3 Reliability test plan. The reliability tests shall be conducted in accordance with the following test plan:

$$\theta_o =$$

Number of Failures	Accept** (Equal or More)	Total Test Time*
		Reject*** (Equal or Less)
0		
1		
2		
3		
4		
5		
6		****

- \* Total test time is total unit hours of "equipment ON" time (in hours).
- \*\* Accept if test time is greater than or equal to that listed.
- \*\*\* Reject if test time is less than or equal to that listed.
- \*\*\*\* Reject if test time is strictly less than \_\_\_\_\_ with 6 failures.

4.4.4.3 Test length. Testing shall continue until the total unit hours together with the total count of relevant equipment failures permit either an accept or reject decision in accordance with the specified test plan. Only equipment "ON" time may be used in MTBF or longevity determinations. Testing shall be monitored in such a manner that the times to failure may be estimated with reasonable accuracy. No single equipment "ON" time shall be less than one-half the average operating time of all equipments "ON" test.

4.4.4.4 Test conditions.

4.4.4.4.1 Operating mode (duty cycle).

4.4.4.4.2 Test level. While under test, the equipment shall be subjected to the conditions specified by Test Level B, MIL-STD-781.

4.4.4.4.3 Input voltage cycling. When so directed by the procuring activity, voltage cycling shall be accomplished as follows: The input voltage shall be maintained at one hundred ten percent (110%) nominal voltage for one-third of the equipment "ON" cycle, at the nominal value for the second one-third of the equipment "ON" cycle, and at ninety percent (90%) for the final one-third of the equipment "ON" cycle. This cycling procedure is to be repeated continuously throughout the reliability test.

4.4.4.5 Reliability examination and test method. The following inspections shall be used to verify equipment operation during reliability testing. The satisfactory operation test of 4.3.1 shall be used to confirm proper equipment operation prior to and following reliability testing. The satisfactory operation test shall also be performed weekly to verify equipment operation. The satisfactory operation check of 4.3.1 shall be used to monitor proper operation of the equipment daily.

4.4.4.6 Reliability failure actions, Group F. In the event of failure(s) during reliability testing, failure action shall be taken as required in MIL-STD-781, para 5.5.

4.4.4.7 Corrective action, Group F. In the event the reliability test reaches a reject decision, corrective action shall be taken as required in MIL-STD-781, para 5.7.

4.4.5 Optional quality assurance system. The procuring activity may substitute tests from a Department of Defense (DoD) approved supplier's quality assurance system for any or all tests in TABLE I.

5. PACKAGING

5.1 Preservation, packaging. Packaging for delivery shall be in accordance with MIL-T-28800 and as specified by the procuring activity.

6. NOTES

6.1 Intended use. The equipment is intended for use in maintaining electronic communications equipment by equipment repair units in intermediate and depot maintenance.

6.1.1 Equipment replaced. Equipment procured according to this specification is intended to replace all versions of various older equipments now fielded. These equipments to be replaced are listed below:

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification and any amendment thereto.
- b. Packaging requirements (see Section 5).
- c. When rough handling and functional tests are required.
- d. Place of final inspection.
- e. Technical literature required.
- f. Quantity of tools and running spare parts required.
- g. Marking for shipment and shipping containers.
- h. Test plans and test reports.
- i. Classification of inspection and number of samples required.
- j. Rack mounting requirements.
- k. Alternate power requirements.
- l. Maintainability rationale.
- m. Reliability rationale.

6.3 Contract data requirements.

- a. Nomenclature assignment.
- b. National stock number.
- c. Equipment sample test plans.
- d. Pretest performance records.
- e. First production test data.
- f. Identification plate drawing.

#### 6.4 Definitions.

6.4.1 Level A performance tests. Level A testing (TABLE II) is a reduced amount of testing which is performed on each equipment produced. Its purpose is to insure that all functions and modes of operation of the equipment are evaluated without extensively checking each parameter as required in the Level B test (TABLE III). The approved equipment test procedure shall specify the actual amount of testing to be performed.

6.4.2 Reliability rationale. Reliability rationale submitted with the bid should provide clear and concise rationale showing how the reliability of the equipment complies with minimum requirements of the solicitation. This may include data from previous reliability tests, reliability predictions and other data available to the offeror. In the absence of such data on the equipment being offered, such data on similar equipment of equal or greater complexity produced by the offeror may be submitted. However, such data must be clearly identified as comparative data, and accomplished with specifications and technical literature on the similar equipment. The acceptance of the submitted rationale does not relieve the successful bidder of performing and successfully completing the production reliability testing.

6.4.3 Maintainability rationale. Maintainability rationale submitted with the bid should provide clear and concise rationale showing how the maintainability of the equipment complies with requirements of the solicitation. This may include data from previous maintainability tests, records of repair and calibration data, and other data on the equipment available to the offeror. Data on selection of module size and other design features relevant to maintainability may also be submitted.

Custodian:

Army - EL

Preparing Activity:

Army - EL

Review Activities:

Army -

(Project 6625- .

User Activities:

Army -



*APPENDIX G*

MILITARY (OTS ETE) SPECIFICATION  
VOLTMETER, DIFFERENTIAL

Off-the-Shelf (OTS)  
Test Equipment Specification

MIL-X-XXXXX(EL)

12 April 1978

MILITARY SPECIFICATION

This specification is approved for use by the Communications Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification defines a Voltmeter, Differential hereinafter called the equipment.

1.2 Classification. The equipment defined by this specification shall be Type II, Class 5, Style E, Color R per MIL-T-28800 and as herein with the convertible/rack-mountable capability.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on the date of invitation for bids, or the request for proposal, form a part of this specification to the extent specified herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U. S. Army Communications Research and Development Command, Fort Monmouth, New Jersey 07703 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 6625

MIL-X-XXXXX (EL)

## SPECIFICATIONS

### MILITARY

MIL-T-28800                      Test Equipment for Use with Electrical and  
   Electronic Equipment, General Specification  
   for

## STANDARDS

### MILITARY

MIL-STD-461                      Electromagnetic Interference Characteristics,  
   Requirements for Equipments

MIL-STD-462                      Electromagnetic Interference Characteristics,  
   Measurement of

MIL-STD-781                      Reliability Tests, Exponential Distribution

(Copies of specifications, standards, drawings and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

## 3. REQUIREMENTS

3.1 Classification of requirements. The requirements for the equipment are classified as follows:

<u>REQUIREMENT</u>	<u>PARAGRAPH</u>
Safety	3.2
Parts, materials and processes	3.3
Design and construction	3.4
Electrical power sources and connections	3.5
Dimensions and weight	3.6
Enclosure requirements	3.7
Marking and identification	3.8
Environmental requirements	3.9
Reliability requirements	3.10
Performance characteristics	3.11

3.2 Safety. Unless otherwise specified herein, the equipment shall comply with the Type II safety requirements specified in MIL-T-28800.

3.3 Parts, materials and processes. Unless otherwise specified herein, the equipment shall comply with the Type II parts, materials and processes requirements of MIL-T-28800.

3.3.1 Restricted materials. Equipment shall comply with the restricted material requirements of MIL-T-28800 including the requirement for mercury or radioactive materials and shall contain no combination of materials which cause deterioration of any material contained in the equipment due to effects of outgassing.

3.4 Design and construction. Unless otherwise specified herein, the equipment shall comply with the Type II, Class 5, Style E, Color R, design and construction requirements of MIL-T-28800 with the convertible/rack-mountable capability.

3.4.1 First article. When specified, the contractor shall furnish five sample equipments for first article inspection and approval. (See 4.3 and 6.2)

3.4.2 Mainframe plug-in concept. Equipment utilizing externally accessible, externally removable subassemblies (mainframe plug-in concept) do not meet the requirements of this specification and therefore are unacceptable. Items using this concept may be offered, provided the plug-in(s) shall not be removable by access through the front panel or rear panel with the unaided hand. A system part number shall be assigned to any such mainframe plug-in combination required to meet the requirements of this specification. The system part number shall be marked on the mainframe identification plate and any plug-in(s).

3.4.3 Controls. Unless otherwise specified herein, built-in adjustments and compensating devices shall not be externally accessible.

3.4.3.1 Front panel controls. All controls which are required to operate the equipment throughout its specified performance characteristics, shall be located on the front panel.

3.4.4 Accessibility. The equipment shall be constructed so that:

3.4.4.1 Subassemblies and chassis components can be removed without removing any other hard wired subassembly, printed circuit card or component.

3.4.4.2 Adjustments can be made without removing any component, printed circuit card or subassembly except the use of extender cards is permitted.

3.4.4.3 Printed circuit cards can be removed without the need to unsolder cables and interconnecting wiring (connections to all printed circuit cards shall be through pin and socket connectors). Printed circuit cards (mother boards) designed primarily to distribute power and signals to other printed cards (daughter boards) are excluded from this requirement. When such motherboards are used, they shall be accessible from both sides to allow maintenance testing.

3.4.4.4 Indicator lights. Unless approved by the procuring activity upon presentation of acceptable reliability data, indicator lights other than light emitting diodes (LEDs) shall be accessible from the operator's side of the front panel.

3.4.4.5 Encapsulation and embedment. Encapsulation and embedment (potting) of subassemblies shall not be used.

3.4.5 Solid State construction. Unless otherwise specified herein, the equipment shall be of solid-state, modular, miniaturized construction.

3.5 Electrical power sources and connections. Unless otherwise specified herein, the equipment shall comply with the Type II electrical power sources and connections requirements of MIL-T-28800. The equipment shall operate from a nominal 115/230 volts, single phase, 50, 60 and 400Hz source.

3.5.1 Maximum power. The maximum power consumption of the equipment shall be 12 watts.

3.5.2 Input power selection device. An input power selection device shall be provided for selection of input power voltages of 115 VAC or 230 VAC. Provision shall be incorporated to prevent accidental switching. When the equipment is delivered, the power selection device shall be in the 115 VAC position.

3.5.3 Fuses and circuit breakers. Fuses and circuit breakers shall be in accordance with MIL-T-28800. (115VAC/230VAC) Either common or separate fuseholders may be provided. If only one fuseholder is used (common), the equipment shall be provided with the 115VAC fuse installed and the 230VAC fuse shall be stowed with the accessories.

3.5.4 Input power switch. A front panel mounted power switch shall be provided. The ON position shall have panel identification lights for AC operation. The switch shall break both sides of the power source.

3.6 Dimensions and weight.

3.6.1 Dimensions. The overall dimensions shall be 229mm (9 in) maximum height, 394mm (15.5 in) maximum depth and the width of 254mm (10 in) or as specified in MIL-T-28800 for rack-mounted equipment. A blank plate may be required to satisfy incremental height requirements.

3.6.2 Weight. The maximum weight of the equipment shall be 9.07KG (20 lbs).

3.7 Enclosure requirements. Unless otherwise specified herein, the equipment shall comply with the Style E enclosure requirements of MIL-T-28800.

3.8 Marking and identification. Unless otherwise specified herein, the equipment shall comply with the Type II marking and identification requirements of MIL-T-28800.

3.8.1 Supplemental identification plate. The supplemental identification plate specified in MIL-T-28800 shall contain the following data only:

- a. Nomenclature.
- b. Procurement instrument identification number (PIIN).
- c. Serial number
- d. National stock number.
- e. US

3.9 Environmental requirements. Unless otherwise specified herein, the equipment shall comply with the Class 5 environmental requirements of MIL-T-28800.



3.9.1 Electromagnetic interference. The equipment shall comply with the following emission and susceptibility requirements of Notice 4, MIL-STD-461.

CE02	CS02	RE02.1	RS03
CE04	CS06	RE02	

RE02.1 and RS03 shall be performed from (TBD) with RS03 at a susceptibility level of one volt per meter (1V/m).

3.9.2 Humidity. The equipment shall meet the humidity requirements in accordance with the test specified in paragraph 4.5.5.1.1.3 of MIL-T-28800.

3.9.3 Vibration. The equipment shall comply with the Class 5 vibration requirements of MIL-T-28800, except that the equipment need not be operating during vibration.

### 3.10 Reliability requirements.

3.10.1 Reliability burn-in. Each equipment delivered against this specification shall be submitted to a minimum 96-hour on-time burn-in procedure as specified in 4.4.4. The last 24 hours of burn-in shall be failure free.

3.10.2 Reliability. Reliability shall comply with requirements as specified herein. The specified MTBF shall be 7500 hours when tested as specified in 4.4.4. A failure shall be defined in MIL-STD-781, para 3.1, and as any departure from the required performance or operation of the required accuracies (not correctable by normal use of the operating controls) after the test is initiated. Test Level B, MIL-STD-781 shall be the required test level.

3.10.3 Maintainability requirements. The equipment shall comply with the Type II maintainability requirements of MIL-T-28800. (See 6.4)

### 3.11 Performance characteristics.

3.11.1 Voltage AC. The equipment shall be capable of measuring AC differential voltage to 1000 volts, with a maximum of 8 ranges and accurate to +/- 0.2 percent.

3.11.2 Voltage DC. The equipment shall be capable of measuring, at a minimum, DC differential voltages from -1000 to +1000 volts, with a maximum of 8 ranges and accurate to +/- 0.2 percent.



3.11.2.1 Null Mode. The equipment shall be capable of measuring voltage variation in the null mode, as low as 100 microvolts DC and 1 millivolt AC.

3.11.2.2 Input Frequency Range Measurement. The equipment shall accurately measure the specified voltages from 20HZ to 5KHZ with an accuracy of +/- 0.2%. The total measurement range shall be 5HZ to 100KHZ, with an accuracy of +/-5 percent for voltage measurements less than 20HZ and greater than 5KHZ.

3.11.3 Input impedance. The input impedance shall be at least 10 megohms for DC voltage and 1 megohms for AC voltage measurements

3.11.4 Primary connectors. The primary connectors shall be the dual female banana plug type.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. The inspections required herein are classified as in a and b.

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.3).

4.3 First article and quality conformance inspection. Unless otherwise specified herein, the first article and quality conformance inspections shall be in accordance with MIL-T-28800.

4.3.1 Test plan. Unless otherwise stated in the contract, the contractor shall prepare a test plan in accordance with paragraphs 4.3(a) and 4.4(a) of MIL-T-28800, for use with both classes of inspection. The test plan shall include as a minimum the tests listed in TABLES I, II, & III, the tests noted in section 4.4, and a description of the satisfactory operation check and satisfactory operation test, as defined in para 4.5 of MIL-T-28800. Unless otherwise required, the tests and inspections to be performed shall be identical for both classes of inspection.

4.3.2 Inspection sampling plan. The inspection sampling to be performed during both classes of inspection shall be as specified in MIL-T-28800, except as indicated below:

4.3.2.1 Unless otherwise specified herein or in the contract, the Group C, D, E & F quality conformance inspections shall be performed on the first production lot only.

TABLE IExamination and Test Groups

DESCRIPTION	RQMT.	TEST METHOD
Group A Preoperational Inspection Leakage Current Level A Performance	4.5.3.1* 3.2.1.3.1* TABLE II	4.3.1
Group B Level B Performance	TABLE III	4.3.1
Group C Electrical Power Environmental Requirements Humidity Vibration	3.5 3.9 3.9.2 3.9.3	4.3.1
Group D Electromagnetic Interference	3.9.1	4.4.1
Group E Dimensions Weight Front Panel Marking	3.6.1 3.6.2 3.8	4.3.1 4.3.1
Group F Reliability	3.10	4.3.1, 4.4.4

\*Paragraphs of MIL-T-28800

MIL-X-XXXXX(EL)

TABLE II

Level A Performance Tests 1/

DESCRIPTION	REQUIREMENTS
Voltage AC	3.11.1
Voltage DC	3.11.2
Input Impedance	3.11.3

1/ Level A testing is abbreviated testing (see 6.4.1)

TABLE III

Level B Performance Tests

DESCRIPTION	REQUIREMENTS
Null Mode	3.11.2.1
Input Frequency Range Measurement	3.11.2.2

4.3.2.2 The Group D EMI tests and Group F Reliability test shall be performed during quality conformance inspection only if not performed during first article or bid sampling testing.

4.4 Quality assurance tests. Unless otherwise specified herein, the following tests shall be performed in accordance with MIL-T-28800.

4.4.1 Electromagnetic interference. One equipment shall be subjected to an EMI test for compliance with the requirements of 3.9.1. All test set-ups and procedures shall comply with the measurement techniques of Notice 3, MIL-STD-462. All emission and susceptibility tests shall be performed with the output cable connected to, and extended parallel with, the front of the equipment. The output cable shall be terminated to simulate a normal loading configuration.

4.4.2 Humidity. The equipment shall be subjected to the humidity test specified in para 4.5.5.1.1.3 of MIL-T-28800.

4.4.3 Vibration. The equipment shall be subjected to the vibration tests specified in MIL-T-28800, for Class 5 equipment, except that the equipment shall not be operated during the test. The satisfactory operation test shall be performed prior to and following vibration testing.

4.4.4 Reliability. The reliability tests shall be performed as follows:

4.4.4.1 Burn-in. Each deliverable equipment shall be subjected to a minimum 96 hours on-time burn-in period, prior to Group A testing. During the last 24 hours of burn-in, the equipment must operate failure free. Up until this time, equipment will be allowed to accumulate failures. Each equipment which fails during the final 24 hour period shall be repaired and returned to test until it successfully survives a 24 hour period without failure. Failures which occur during the burn-in test shall be noted and reported, but shall not count toward the establishment of equipment MTBF. Prior to burn-in, the satisfactory operation test of 4.3.1 shall be conducted. Daily satisfactory operation checks (4.3.1) shall be conducted. For the last 24 hour failure free period, a complete satisfactory operation test shall be conducted prior to and after the period.

4.4.4.2 Reliability sampling plan.

4.4.4.2.1 First Article. The Group F reliability demonstration shall be conducted on at least five (5) samples. The use of ten (10) samples is encouraged, but not more than ten (10) samples shall be used.

4.4.4.2.2 Quality conformance inspection. The Group F reliability tests shall be performed on the first production lot, only if not performed during First Article testing. From those units of the first lot that have passed the required Group A and B tests, a random sample of ten (10) units shall be selected, for Group F testing.

4.4.4.2.3 Reliability test plan. The reliability tests shall be conducted in accordance with the following test plan:

Number of Failures	$\theta_0 =$	
	Accept** (Equal or More)	Total Test Time* Reject*** (Equal or Less)
0		
1		
2		
3		
4		
5		
6		****

\* Total test time is total unit hours of "equipment ON" time (in hours).

\*\* Accept if test time is greater than or equal to that listed.

\*\*\* Reject if test time is less than or equal to that listed.

\*\*\*\* Reject if test time is strictly less than \_\_\_\_\_ with 6 failures.

4.4.4.3 Test length. Testing shall continue until the total unit hours together with the total count of relevant equipment failures permit either an accept or reject decision in accordance with the specified test plan. Only equipment "ON" time may be used in MTBF or longevity determinations. Testing shall be monitored in such a manner that the times to failure may be estimated with reasonable accuracy. No single equipment "ON" time shall be less than one-half the average operating time of all equipments "ON" test.

#### 4.4.4.4 Test conditions.

##### 4.4.4.4.1 Operating mode (duty cycle).

4.4.4.4.2 Test level. While under test, the equipment shall be subjected to the conditions specified by Test Level B, MIL-STD-781.

4.4.4.4.3 Input voltage cycling. When so directed by the procuring activity, voltage cycling shall be accomplished as follows: The input voltage shall be maintained at one hundred ten percent (110%) nominal voltage for one-third of the equipment "ON" cycle, at the nominal value for the second one-third of the equipment "ON" cycle, and at ninety percent (90%) for the final one-third of the equipment "ON" cycle. This cycling procedure is to be repeated continuously throughout the reliability test.

4.4.4.5 Reliability examination and test method. The following inspections shall be used to verify equipment operation during reliability testing. The satisfactory operation test of 4.3.1 shall be used to confirm proper equipment operation prior to and following reliability testing. The satisfactory operation test shall also be performed weekly to verify equipment operation. The satisfactory operation check of 4.3.1 shall be used to monitor proper operation of the equipment daily.

4.4.4.6 Reliability failure actions, Group F. In the event of failure(s) during reliability testing, failure action shall be taken as required in MIL-STD-781, para 5.5.

4.4.4.7 Corrective action, Group F. In the event the reliability test reaches a reject decision, corrective action shall be taken as required in MIL-STD-781, para 5.7.

4.4.5 Optional quality assurance system. The procuring activity may substitute tests from a Department of Defense (DoD) approved supplier's quality assurance system for any or all tests in TABLE I.

## 5. PACKAGING

5.1 Preservation, packaging. Packaging for delivery shall be in accordance with MIL-T-28800 and as specified by the procuring activity.



6. NOTES

6.1 Intended use. The equipment is intended for use in maintaining electronic communications equipment by equipment repair units in intermediate and depot maintenance.

6.1.1 Equipment replaced. Equipment procured according to this specification is intended to replace all versions of various older equipments now fielded. These equipments to be replaced are listed below:

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification and any amendment thereto.
- b. Packaging requirements (see Section 5).
- c. When rough handling and functional tests are required.
- d. Place of final inspection.
- e. Technical literature required.
- f. Quantity of tools and running spare parts required.
- g. Marking for shipment and shipping containers.
- h. Test plans and test reports.
- i. Classification of inspection and number of samples required.
- j. Rack mounting requirements.
- k. Alternate power requirements.
- l. Maintainability rationale.
- m. Reliability rationale.

6.3 Contract data requirements.

- a. Nomenclature assignment.
- b. National stock number.
- c. Equipment sample test plans.
- d. Pretest performance records.
- e. First production test data.
- f. Identification plate drawing.

#### 6.4 Definitions.

6.4.1 Level A performance tests. Level A testing (TABLE II) is a reduced amount of testing which is performed on each equipment produced. Its purpose is to insure that all functions and modes of operation of the equipment are evaluated without extensively checking each parameter as required in the Level B test (TABLE III). The approved equipment test procedure shall specify the actual amount of testing to be performed.

6.4.2 Reliability rationale. Reliability rationale submitted with the bid should provide clear and concise rationale showing how the reliability of the equipment complies with minimum requirements of the solicitation. This may include data from previous reliability tests, reliability predictions and other data available to the offeror. In the absence of such data on the equipment being offered, such data on similar equipment of equal or greater complexity produced by the offeror may be submitted. However, such data must be clearly identified as comparative data, and accomplished with specifications and technical literature on the similar equipment. The acceptance of the submitted rationale does not relieve the successful bidder of performing and successfully completing the production reliability testing.

6.4.3 Maintainability rationale. Maintainability rationale submitted with the bid should provide clear and concise rationale showing how the maintainability of the equipment complies with requirements of the solicitation. This may include data from previous maintainability tests, records of repair and calibration data, and other data on the equipment available to the offeror. Data on selection of module size and other design features relevant to maintainability may also be submitted.

Custodian:

Army - EL

Preparing Activity:

Army - EL

Review Activities:

Army -

(Project 6625-

User Activities:

Army -

## APPENDIX H

### DEFINIZATION OF OTS ETE SPECIFICATIONS

#### 1. INTRODUCTION

This appendix presents technical parameter data for the Military (OTS ETE) Specifications and those OTS ETE and Army Inventory TMDE encoded during the study. It is structured to permit CERCOM to directly compare the technical parameters of each source.

#### 2. ABBREVIATIONS

The following nonelectronic abbreviations are used throughout the computer listings:

EXT	- External
GT	- Greater Than
NGT	- Not Greater Than
INT	- Internal
LT	- Less Than
NLT	- Not Less Than
PCT	- Percent
W/	- With

## DEFINITIZATION OF QTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC QTS ETC TYPE DESIGNATOR/ FAM TMDB  
 NO MFR'S MOL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
 OR AS STATED

00100

25

008 9025 BRIDGE, UNIVERSAL

RM6302 77569 008 8036 RCL BRIDGE RM6302  
 TF1313A 09555 008 8037 UNIVERSAL BRIDGE  
 1683 24655 008 8033 AUTOMATIC PLC BRIDGE  
 3154 00000 008 8034 MINI-BRIDGE  
 426JA 28480 008 8038 UNIVERSAL BRIDGE 426JA

AN/UPM-90 83777 024 0375 BRIDGE CAPACITANCE, INDUCTANCE, RESISTANCE  
 AN/USM-263 11837 008 0496 BRIDGE, RESISTANCE-VOLTAGE  
 AN/USM-357 80009 011 0536 METER INDUCTANCE AND CAPACITANCE  
 DP170 28569 009 1930 BRIDGE RESISTANCE DIGITAL  
 E1902 07239 008 3267 BRIDGE IMPEDANCE  
 F3067 07239 008 1982 POTENTIOMETER  
 E3108 07239 008 1295 BRIDGE, RESISTANCE  
 M-3 56289 011 1300 TEST SET, CAPACITOR COMPACT  
 O19-2 19482 008 1562 IMPEDANCE BRIDGE HIGH FREQ  
 RN-1600 08987 008 2000 RESISTANCE BRIDGE  
 SP2280 11837 022 3292 IMPEDANCE MEASURING SYSTEM  
 TO-5 56289 011 1397 BRIDGE, CAPACITANCE  
 ZB-2A 80740 011 1314 BRIDGE, IMPEDANCE  
 ZM-11/U 13259 011 1276 BRIDGE, CAPACITANCE, INDUCTANCE, RESISTANCE  
 ZM-11A/U 011 1277 BRIDGE, CAPACITANCE, INDUCTANCE, RESISTANCE  
 ZM-11B/U 12019 011 1278 BRIDGE, CAPACITANCE, INDUCTANCE, RESISTANCE  
 ZM-3/U 54294 011 1271 ANALYZER, CAPACITOR  
 ZM-3A/U 77569 011 1272 ANALYZER, CAPACITOR  
 ZM-4/U 31922 008 1273 BRIDGE, RESISTANCE  
 ZM-4A/U 66150 008 1274 BRIDGE, RESISTANCE  
 ZM-4B/U 66150 008 1275 BRIDGE, RESISTANCE  
 ZM-61/U 28480 008 1284 BRIDGE, CAPACITANCE, INDUCTANCE, RESISTANCE  
 ZM-68/U 88869 008 1285 BRIDGE IMPEDANCE  
 ZM-69 24655 008 3630 BRIDGE, IMPEDANCE  
 ZM-69A 24655 008 3631 BRIDGE, IMPEDANCE  
 ZM-70/U 11837 008 1286 BRIDGE, CAPACITANCE, INDUCTANCE, RESISTANCE  
 ZM-71/U 28480 008 1287 BRIDGE, IMPEDANCE  
 1050 28009 008 1926 WHEATSTONE BRIDGE  
 1090 28009 008 1379 WHEATSTONE BRIDGE  
 1212A 24655 008 1714 DETECTOR, NULL  
 1604A 24655 008 1474 COMPARATOR, IMPEDANCE  
 1610-B2 24655 011 1384 CAPACITANCE MEASURING ASSY  
 1611A 24655 008 1385 BRIDGE, CAPACITANCE  
 1615AM 24655 011 2570 CAPACITANCE, BRIDGE  
 1620A 24655 011 2571 CAPACITANCE MEASUREMENT SYSTEM

## DEFINITION OF QTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC QTS ETC NO. MFR'S MOD. NO.	TYPE DESIGNATOR/ MFR'S MODEL NO.	FSCM CODE	TIME ID. NO.	PARAMETER	ACCURACY - PCT- OR AS STATED
------------------------------------	-------------------------------------	--------------	-----------------	-----------	---------------------------------

00100

1632	24655	024	2572	BRIDGE, INDUCTANCE	
1650B	24655	008	1475	BRIDGE, IMPEDANCE	
231R	11837	009	1333	WHEATSTONE BRIDGE	
250-A	04931	022	1334	METER RX	
2700	09553	009	1487	BRIDGE UNIVERSAL IMPEDANCE	
290-A-MOD	11837	008	3350	IMPEDANCE BRIDGE	
315A	11837	008	3592	BRIDGE, IMPEDANCE	
4271	31922	008	1405	BRIDGE, RESISTANCE	
4285	31922	008	1948	BRIDGE, RESISTANCE	
4735	31922	008	1408	BRIDGE, RESISTANCE	
5305	31922	008	1414	WHEATSTONE BRIDGE	
5430A	31922	008	1949	BRIDGE, RESISTANCE	
7040	79409	022	1420	TESTER, IMPEDANCE, GROUND LOOP	
7160	24655	011	1367	BRIDGE, CAPACITANCE	
750	04931	011	1369	BRIDGE, CAPACITANCE	

DIMENSIONS IN MM/INS 00110

25 LOR 9025 482.6MM(19 IN)WX317.5MM(12.50IN)HX292.1MM(11.50IN)D

PM6302	25088	008	8035	130CM(51IN)WX250CM(10IN)HX260CM(11IN)D
TF1313A	77569	008	8036	140CM(6IN)HX230CM(9IN)WX280CM(11IN)D
1683	09555	008	8007	30CM(12IN)HX50CM(20IN)WX260CM(10IN)D
315A	24665	008	8003	48CM(19IN)WX20CM(8IN)HX65CM(25IN)D
4263A	00000	008	8004	27CM(10 IN)WX20CM(8IN)W X22CM(9IN)D
	28430	008	8006	190CM(6IN)WX170CM(7IN)HX280CM(11IN)D

AN/URM-90	83777	024	0375	27.5CM(11IN)WX28.75CM(11.5IN)HX22.5CM(10.5IN)D
AN/USM-263	11837	008	0496	23.7CM(11.3IN)W X 18.3CM(7.2IN)H X 36.8CM(14.5IN)D
AN/USM-357	80004	011	0536	17.5CM(7IN)WX26.25(10.5IN)HX26.86.97CM(10.75IN)D
DP170	28569	008	1990	20.96CM(8.25IN)WX7.62CM(3IN)HX25.40CM(10IN)D
E1002	07239	008	3267	30.48CM(12 IN)WX17.78CM(7IN)HX48.26CM(19IN)D
E3067	07239	008	1982	21.27CM(8.375IN)WX20.32CM(8IN)HX41.91CM(16.5IN)D
E3108	07239	008	1295	24.13CM(9.50IN)WX17.78CM(7IN)HX20.32CM(8IN)D
M-3	56289	011	1330	15.24CM(6IN)WX13.97CM(5.5IN)HX20.32CM(8IN)D
DIR-2	19482	008	1562	17.78(7 IN)WX22.86(9 IN)HX15.88(6.25IN)D
SP2280	11837	022	3292	29.58CM(11.25IN)WX53.34CM(21IN)HX48.26CM(19IN)D
TD-5	56289	011	1307	36.20CM(14.25IN)WX21.59CM(8.5IN)HX12.70CM(5IN)D
ZB-2A	80740	011	1314	27.31CM(10.75IN)WX24.45CM(9.63IN)HX26.67CM(10.5IN)D
ZM-11/U	13259	011	1276	22.5CM(9IN)WX16.25CM(6.5IN)HX23.75CM(9.5IN)D

N/D

## DEFINITION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC QTS ETE NO MFR'S MOL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM CODE	TMDE IO NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	----------------	-----------	--------------------------------

DIMENSIONS IN MM/INS OC110

ZM-11A/U		011	1277	21.87CM(8.75IN)WX15.5CM(6.2IN)HX24.37CM(9.75IN)D	
ZM-11B/U	12019	011	1278	21.87CM(8.75IN)WX24.37CM(9.75IN)HX15.5CM(6.2IN)D	
ZM-3/U	54294	011	1271	21.91CM(8.63IN)WX35.24CM(13.88IN)HX26.35CM(10.38IN)D	
ZM-3A/U	77569	011	1272	23.50CM(9.25IN)WX34.29CM(13.5IN)HX26.04CM(13.5IN)D	
ZM-4/U	31922	008	1273	18.42CM(7.25IN)W X 13.56CM(5.34IN)H X 22.23CM(8.75IN)D	
ZM-4/U	31922	008	1273	23.18CM(9.125IN)WX25.72CM(10.125IN)HX29.85CM(11.75IN)D	
ZM-4A/U	66150	008	1274	18.42CM(7.25IN)W X 13.56CM(5.34IN)H X 22.23CM(8.75IN)D	
ZM-4A/U	66150	008	1274	18.42CM(7.25IN)WX13.56CM(5.34IN)HX22.23CM(8.75IN)D	
ZM-4B/U	66150	008	1275	18.42CM(7.25IN)WX13.56CM(5.34IN)HX22.23CM(8.75IN)D	
ZM-4B/U	66150	008	1275	18.42CM(7.25IN)W X 13.56CM(5.34IN)H X 22.23CM(8.75IN)D	
ZM-61/U	28480	008	1284	34.29CM(13.50IN)WX50.96CM(20.063IN)HX26.04CM(10.25IN)D	
ZM-68/U	88869	008	1285	13.34CM(5.25IN)WX38.10CM(15IN)HX48.26CM(19IN)D	
ZM-69	24655	008	3630	33.02CM(13IN)WX17.15CM(6.75IN)HX31.12CM(12.25IN)D	
ZM-70/U	11837	008	1286	21.34CM(8.4IN)WX17.53CM(6.9IN)HX26.92CM(10.6IN)D	
ZM-71/U	28480	008	1287	19.69CM(7.75IN)WX16.51CM(6.5IN)HX27.94CM(11IN)D	
1050	28009	008	1926	22.86CM(9IN)WX15.24(6IN)HX22.86CM(9IN)D	
1212A	24655	008	1714	14.61CM(5.75IN)WX15.88CM(6.25IN)HX27.31CM(10.75IN)D	
1604A	24655	008	1474	36.20CM(14.25IN)WX25.40CM(10IN)HX30.48CM(12IN)D	
1610-B2	24655	011	1384	109.2CM(43IN)WX50.8CM(20IN)HX57.15CM(22.5IN)D	
1611A	24655	008	1385	36.83CM(14.5IN)WX25.40CM(10IN)HX40.64CM(16IN)D	
1615AM	24655	011	2570	33.02CM(13IN)WX22.86CM(9IN)HX48.26CM(19IN)D	
1621A	24655	011	2571	50.8CM(20IN)WX26.67CM(10.5IN)HX48.26CM(19IN)D	
1632	24655	024	2572	40.64CM(16IN)WX27.94CM(11IN)HX50.80CM(20IN)D	
1650B	24655	008	1475	25.40CM(10IN)WX15.24CM(6IN)HX30.48CM(12IN)D	
231R	11837	008	1333	38.35CM(15.1IN)WX50.80CM(20IN)HX49.53CM(19.5IN)D	
250-A	04901	022	1334	50.80CM(20IN)WX30.48CM(12IN)HX25.40CM(10IN)D	
2700	09553	008	1487	17.78CM(7IN)WX22.86CM(9IN)HX20.32CM(8IN)D	
290-A-MCD	11837	008	3350	13.34CM(5.25IN)WX20.32CM(8IN)HX48.26CM(19IN)D	
315A	11837	008	3592	20.32CM(8IN)WX17.78CM(7IN)HX25.40CM(10IN)D	
4271	31922	008	1495	48.26CM(19IN)WX43.18CM(17IN)HX43.18CM(17IN)D	
4285	31922	008	1948	22.86CM(9IN)WX18.80CM(7.4IN)HX40.64CM(16IN)D	
4735	31922	008	1408	22.23CM(8.75IN)WX16.19CM(6.38IN)HX48.26CM(19IN)D	
5305	31922	008	1414	21.59CM(8.5IN)WX15.75CM(6.2IN)HX24.13CM(9.5IN)D	
5430A	31922	008	1949	20.32CM(8IN)WX17.78CM(7IN)HX15.24CM(6IN)D	
7040	79409	022	1420	9.53CM(3.75IN)WX8.57CM(3.38IN)HX19.05CM(7.5IN)D	
715C	24655	011	1367	55.25CM(21.75IN)WX36.20CM(14.25IN)HX28.58(11.25IN)D	
750	04901	011	1369	49.53CM(19.5IN)WX28.58CM(11.25IN)HX32.39CM(12.75IN)D	

H-5

## DEFINITIZATION OF OTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC OTS ETC NO MFR'S MOL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMOE CODE ID NO.	PARAMETER
---------------------------------	------------------------------------	-------------	---------------------	-----------

ACCURACY -PCT- OR AS STATED
--------------------------------

WEIGHT IN KG/LBS	CO120
------------------	-------

25		008	9025	17KG/37LBS
PM6302		77569	008	8006
TF1313A		09555	008	8007
1683		24665	008	8003
315A		00000	008	8004
4260A		28480	008	8008
	AN/USM-263	11837	008	0496
	AN/USM-357	80009	011	0536
	DP170	28549	008	1980
	E1002	07239	008	3267
	E3067	07239	008	1982
	E3108	07239	008	1295
	M-3	56289	011	1300
	SP2280	11837	022	3292
	TD-5	56299	011	1377
	ZR-2A	80740	011	1314
	ZM-3/U	54294	011	1271
	ZM-3A/U	77569	011	1272
	ZM-4/U	31922	008	1273
	ZM-4/U	31922	008	1273
	ZM-4A/U	66150	008	1274
	ZM-4A/U	66150	008	1274
	ZM-48/U	66150	008	1275
	ZM-48/U	66150	008	1275
	ZM-61/U	28480	008	1284
	ZM-68/U	88869	008	1295
	ZM-69	24655	008	3630
	ZM-71/U	28480	008	1287
	1212A	24655	008	1714
	1604A	24655	008	1474
	1610-R2	24655	011	1384
	1611A	24655	008	1385
	1615AM	24655	011	2570
	1620A	24655	011	2571
	1632	24655	024	2572
	1650R	24655	008	1475
	2318	11837	008	1333
	250-A	04901	022	1334
	2700	09553	008	1487
	290-A-MOD	11837	008	3350
	315A	11837	008	3592

9-H



## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC OTS ETE NO	MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMDE CODE	ID NO.	PARAMETER
--------------------	--------------	------------------------------------	-------------	--------------	--------	-----------

ACCURACY -PCT-  
OR AS STATED

WEIGHT IN KG/LBS 00120

4271	31922	008	1405	21.79KG(48LBS)
4285	31922	008	1948	9.08KG(20LBS)
4735	31922	008	1408	9.08KG(20LBS)
5305	31922	008	1414	4.54KG(10LBS)
5430A	31922	008	1949	1.82KG(4LBS)
7040	79439	022	1420	.45KG(1LBS)
716C	24655	011	1367	18.39KG(40.5LBS)
750	94901	011	1369	15.89KG(35LBS)

ENCLOSURE (STYLE) 00130

25	008	9025	MIL-T-28000 STYLE E W/RACKMOUNT CAPABILITY
PM6302	77569	008	8006 YES
4260A	28480	008	8008 NO RACK MOUNT CAPABILITY
16J4A	24655	008	1474 60HZ,115VAC
16508	24655	008	1475 RACK MOUNT

PWR SOURCE(S)/CONSUMPTION 00140

25	008	9025	TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/15W
PM6302	77569	008	8006 48-60HZ S-PHASE 115/230VAC/3.5W
1683	24665	008	8003 50-60HZ,S-PHASE 105-125,200-250VAC/110W
3151	00000	008	8004 B C CELL BATTERIES W/POWER PACK OPTION
4260A	28480	008	8008 50,60HZ S-PHASE 115/230VAC/7W
AN/URM-90	83777	024	0375 50-1000HZ S-PHASE 115VAC
AN/USM-263	11837	008	0496 FIVE 1.5VOLT 0 CELLS AND TWO 8.4VOLT MERCURY BATTERIES
AN/USM-357	80009	011	0536 50-60HZ S-PHASE 115/230VAC/40W
OP170	28569	008	1980 60HZ S-PHASE 115VAC
E3067	07239	008	1982 INTERNAL BATTERY POWERED
O18-2	19482	008	1562 12.5V BATTERY
SP2280	11837	022	3292 50-400HZ S-PHASE 117/230VAC/125W

H-7

## DEFINITIZATION OF QTS EYE SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC QTS EYE NO MFR'S MOL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM CODE	TMDE ID NO.	PARAMETER
---------------------------------	------------------------------------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

PWR SOURCE(S)/CONSUMPTION 00140

TD-5	56239	011	1307	60HZ S-PHASE 105/125VAC/25W
ZB-2A	80740	011	1314	50-1000HZ S-PHASE 115/230VAC/18W
ZM-11/U	13259	011	1276	50-1000HZ S-PHASE 115VAC/40W
ZM-11B/U	12019	011	1278	50-1000HZ S-PHASE 115VAC/
ZM-3/U	54294	011	1271	50-1000HZ S-PHASE 115/230VAC
ZM-3A/U	77569	011	1272	50-1000HZ S-PHASE 115/230VAC
ZM-4/U	31922	008	1273	40-60HZ S-PHASE 210/250VAC/25W
ZM-4/U	31922	008	1273	3 EACH BA-30 BATTERY
ZM-4A/U	66150	008	1274	3 EACH BA-30 BATTERY
ZM-4A/U	66150	008	1274	VOLTAGE-AC W/3-1.5V BATTERIES
ZM-4B/U	66150	008	1275	VOLTAGE-AC W/3-1.5V BATTERIES
ZM-4B/U	66150	008	1275	3 EACH BA-30 BATTERY
ZM-61/U	28480	008	1284	50-1000HZ S-PHASE 115/230VAC/60W
ZM-69	24655	008	3630	AVDC BATTERY
ZM-69A	24655	008	3631	6VDC BATTERY
ZM-70/U	11837	008	1286	4-1.5VOLT BATTERIES
ZM-71/U	28480	008	1287	50-60HZ S-PHASE 115/230VAC/7W
1212A	24655	008	1714	REQUIRES UNIT PWR SUPPLY
1611A	24655	008	1385	60HZ S-PHASE 115/230VAC/15W
1620A	24655	011	2571	50-400HZ S-PHASE 115/230VAC/22W
1650B	24655	008	1475	4 SIZE-D BATTERY CELLS
2319	11837	008	1333	60HZ S-PHASE 115VAC/1W
250-A	04901	022	1334	50-60HZ S-PHASE 105-125VAC/60W
2700	09553	008	1487	60HZ S-PHASE 110VAC
315A	11837	009	3592	9V DC BATTERY
4271	31922	008	1405	50-60HZ S-PHASE 120VAC/6W
4285	31922	008	1948	BATTERY 1.5V
4735	31922	008	1408	1VDC
5305	31922	008	1414	3 TYPE D BATTERIES
5430A	31922	008	1949	3VDC
7040	79409	022	1420	50-60HZ S-PHASE 115VAC

MTBF SPECIFIED/PREDICTED 00150

25

008 9025 3500 HRS

8-H

## DEFINITIZATION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC QTS ETE NO	QTS ETE MODEL NO	TYPE DESIGNATOR/ QTS ETE MODEL NO	FAM CODE	TMDE ID NO.	PARAMETER
--------------------	---------------------	--------------------------------------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

## PRIMARY OUTPUT CONNECTOR 00180

25

008 9025 DUAL FEMALE BANANA JACK

## ENVIRONMENTAL CONDITIONS 00200

25

008 9025 MIL-T-28800 TYPE II CLASS 5 STYLE E COLOR 2

7M-4/U	31922	008	1273	IAW MIL-T-945
7M-4A/U	66150	008	1274	IAW MIL-T-945
7M-4B/U	66150	008	1275	IAW MIL-T-945

## TEMP OPER/NON-OPERATING 00210

25

008 9025 0 TO 50 C / -55 TO 75 C

AN/URM-90	83777	024	0375	IAW MIL-STD 883C METHOD 502
AN/USM-263	11837	008	0496	+40F TO +140F (+5C TO +60C) / -35F TO +160F (-37C TO +70C)
ZM-3/U	54294	011	1271	-4 TO 125F / -65 TO 160F
ZM-3A/U	77562	011	1272	-4 TO 125F / -65 TO 160F

## RELATIVE HUMIDITY 00220

25

008 9025 95

## ALTITUDE OPER/NON-OPER 00230

25

008 9025 3050M(10000FT)/12000M(40000FT)

AN/URM-90	83777	024	0375	IAW MIL-STD-883C
-----------	-------	-----	------	------------------

## DEFINITIZATION OF QTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC QTS ETC TYPE DESIGNATOR/ FAM TMOF  
NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

## VIBRATION LIMIT (MAXIMUM) 00240

25		008	9025	2G
	ZM-4/U	31922	008	1273
	ZM-4A/U	66150	008	1274
	ZM-4B/U	66150	008	1275

SHALL BE TESTED IAW MIL-T-945  
SHALL BE TESTED IAW MIL-T-945  
SHALL BE TESTED IAW MIL-T-945

## SHOCK, PULSE LEVEL 00250

25		008	9025	30G
	ZM-4/U	31922	008	1273
	ZM-4A/U	66150	008	1274
	ZM-4B/U	66150	008	1275

SHOCK AND BOUNCE TEST RQD SEE MIL-9-3067B  
SHOCK AND BOUNCE TEST RQD SEE MI-9-3067B  
SHOCK AND BOUNCE TEST RQD SEE MIL-9-3067B

## CAPACITANCE RANGE 08400

25		008	9025	1 PF TO 1200 UF IN NMT 8 RANGES	+/-0.2 PCT
PM6302	77569	008	8036	1PF TO 1000UF	+/-2 PCT
TF1313A	09555	008	8037	.1PF TO 110UF	+/-0.1 PCT
1683	24665	008	8033	.1PF TO 20000UF	+/-1 PCT
315A	00000	008	8034	0-1200 MFD	+/-1 PCT
4260A	28480	008	8038	1000UF TO 1000UF	+/-1 PCT
				IN 9 RANGES W	
				IN 7 RANGES	
AN/URM-90	83777	024	0375	.1 TO 10000UF	+/-0.5 PCT
AN/USM-357	80009	011	0536	0 TO 3000UF	+/-3 PCT
M-3	56289	011	1300	100PF TO 2000UF	
SP2280	11837	022	3292	0 TO 12000UF	+/-0.1 PCT
TJ-5	56289	011	1307	0 TO 2000UF	
Z8-2A	80740	011	1314	NOT LISTED	
ZM-11/U	13259	011	1276	100UF TO 1000UF	+/-5 PCT
ZM-11A/U		011	1277	10PF TO 1000UF	+/-2 PCT
ZM-11B/U	12019	011	1278	10PF TO 1000UF	+/-5 PCT
ZM-3/U	54294	011	1271	50UF TO 10000UF	+/-5 PCT
ZM-3A/U	77569	011	1272	5PF TO 10000UF	

H-10

## DEFINITIZATION OF DTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC DTS ETC NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMOE TO NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	------	-------------	----------------	-----------	--------------------------------

CAPACITANCE RANGE 08400

ZM-61/U	28480	008	1284	0 TO 20 PF	IN 8 RANGES	+/-1 PCT
ZM-69	24655	008	3630	1PF TO 1000UF	IN 7 RANGES	+/-1 PCT
ZM-69A	24655	008	3631	1PF TO 1100UF	IN 7 RANGES	+/-1 PCT
ZM-70/U	11837	008	1286	0 TO 1200UF		+/-0.2 PCT
ZM-71/U	28480	008	1287	1PF TO 1000UF	IN 7 RANGES	+/-1 PCT
1610-B2	24655	011	1384	200PF TO 1.150UF		+/-0.1 PCT
1611A	24655	008	1385	0 TO 1100UF		+/-1 PCT
1615AM	24655	011	2570	1PF TO 1UF		+/-0.01 PCT
1620A	24655	011	2571	1PF TO 1UF		+/-0.01 PCT
1650B	24655	008	1475	1PF TO 1100UF		+/-1 PCT
250-A	04901	022	1334	0 TO 100PF		+/-1 PCT
290-A-MCD	11837	008	3350	0 TO 1200UF		+/-0.2 PCT
716C	24655	011	1367	100PF TO 1100MF		+/-0.1 PCT
750	04901	011	1369	10PF TO 10,000UF		

DC TEST VOLTAGE 16000

25 008 9025 DC TEST VOLTAGE 0-500 VDC

7M-11A/U	011	1277	0-500VDC
ZM-118/U	12019	011	0-500VDC
ZM-3/U	54294	011	0 TO 600VDC LEAKAGE
7M-3A/U	77569	011	0-TO 600VDC LEAKAGE

DISSIPATION FACTOR 18400

25 008 9025 RANGE 0.001 TO 1.0

+/-5 PCT

INTERNAL SIGNAL SOURCE 25410

25 008 9025 SIGNAL SOURCE 1KHZ

+/-3 PCT

PM6302	77569	008	8036	100 & 1KHZ
TF1313A	09555	008	8007	1KHZ & 10KHZ

## DEFINITION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC OTS ETE TYPE DESIGNATOR/ FAM TMDE  
NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

## INTERNAL SIGNAL SOURCE 25410

1683	24665	008	8003	1KHZ
3151	00000	008	8004	1KHZ
4260A	28480	008	8008	1KHZ
ZM-11/U	13259	011	1276	1KHZ INTERNAL OSC
ZM-61/U	28480	008	1284	.5 TO 250MHZ
ZM-69A	24655	008	3631	1KHZ
ZM-70/U	11837	008	1286	INTERNAL GENERATOR AC AND DC
ZM-71/U	28480	008	1287	1KHZ INT
1610-32	24655	011	1384	20HZ TO 500KHZ
1620A	24655	011	2571	AUDIO OSC
1650B	24655	008	1475	1KHZ INTERNAL OSC

## EXTERNAL SIGNAL SOURCE 25420

25	008	9025	SIGNAL SOURCE VARIABLE FROM 50HZ TO 20KHZ	
TF1313A	09555	008	8007	20-20KHZ EXT
1683	24665	008	8003	PROGRAMMABLE OPTIONS
3151	00000	008	8004	20-20KHZ
4260A	28480	008	8008	20-20KHZ EXT
ZM-71/U	28480	008	1287	20-20KHZ EXT
1632	24655	024	2572	100HZ TO 100KHZ
1650B	24655	008	1475	EXTERNAL FREQ CAPABILITY

## INDUCTANCE 36800

25	008	9025	1 UH TO 1100 HENRYS IN NMT 8 RANGES		+/-0.1 PCT
PM6302	77569	008	8006	1UH TO 1000H	+/-2 PCT
TF1313A	09555	008	8007	.1UH TO 110H	+/-0.1 PCT
1683	24665	008	8003	.001UH TO 200H	+/-1 PCT
3151	00000	008	8004	0-1200 H	+/-1 PCT
4260A	28480	008	8008	1000UH TO 1000H	+/-1 PCT

IN 9 RANGES

IN 7 RANGES

H-12

## DEFINITION OF QTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC QTS ETC NO MFR'S MCL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMOE ID NO.	PARAMETER	ACCURACY -PCT- OP AS STATED
---------------------------------	------------------------------------	------	-------------	----------------	-----------	--------------------------------

INDUCTANCE 36800

AN/URM-90	83777	024	0375	.1UH TO 1100H	+/- .15 PCT
AN/USM-357	80009	011	0536	0 TO 300UH	+/- .1 PCT
SP2280	11837	022	3292	0 TO 1+00H	+/- .1 PCT
ZB-2A	80740	011	1314	NOT LISTED	+/- .1 PCT
ZM-11/U	13259	011	1276	.01MH TO 100H	+/- .1 PCT
ZM-114/U	011	1277	100UH TO 100H	+/- .1 PCT	
ZM-118/U	12019	011	1278	100UH TO 100H	+/- .1 PCT
ZM-61/U	28480	008	1284	.001UH TO 100MH IN 8 RANGES	+/- .1 PCT
ZM-69	24655	008	3630	1UH TO 1000H IN 7 RANGES	+/- .1 PCT
ZM-69A	24655	008	3631	1UH TO 1100H IN 7 RANGES	+/- .1 PCT
ZM-70/U	11837	008	1286	0 TO 1200H	+/- .1 PCT
ZM-71/U	28480	008	1287	1UH TO 1000H IN 7 RANGES	+/- .1 PCT
1632	24655	024	2572	100PH TO 1111H	+/- .1 PCT
16508	24655	008	1475	1UH TO 1100H	+/- .1 PCT
290-A-MOD	11837	008	3350	0 TO 1200H	+/- .1 PCT

RESISTANCE MEASUREMENT 59600

25	008	9025	10 OHMS TO 50 MEGOHMS IN NMT 8 RANGES	+/- .1 PCT	
PM6302	77569	008	8006	.100HM TO 10MEGOHMS IN 9 RANGES	+/- .2 PCT
TF1313A	09555	008	8007	.0030HMS TO 110MEGOHMS	+/- .1 PCT
1683	24665	008	8003	.001MILLIOHM TO 2MEGOHMS IN 9 RANGES	+/- .1 PCT
3151	00000	008	8004	0-12 MEGOHM	+/- .25 PCT
4260A	28480	008	8008	10 OHMS TO 10 MEGOHMS IN 7 RANGES	+/- .1 PCT
AN/URM-90	83777	024	0375	.1MILLIOHM TO 11MEGOHM	+/- .15 PCT
DP170	28569	008	1980	0-9.99OHMS	+/- .002 PCT
F1002	07239	008	3267	25.5 OHM PLATINUM RESIST THERMOMETER FOR TEMP READING	
E3108	07239	008	1295	0 TO 10 MEGOHM	
DIB-2	19482	008	1562	0 TO 600 OHMS	+/- .5 PCT
PN-1600	08987	008	2030	0 TO 1.010 OHMS IN 5 RANGES	.0000020HM
SP2280	11837	022	3292	0 TO 12000MEGOHMS	+/- .01 PCT
ZB-2A	80740	011	1314	NOT LISTED	
ZM-11/U	13259	011	1276	10HM TO 10MEGOHM	+/- .2 PCT
ZM-114/U	011	1277	1 TO 10MEGOHMS	+/- .5 PCT	
ZM-118/U	12019	011	1278	1 TO 10MEGOHMS	+/- .2 PCT
ZM-3/U	54294	011	1271	1 TO 10,000 MEGOHMS INSULATION RESISTANCE	
ZM-34/U	77569	011	1272	1.1 TO 10,000MEGOHMS INSULATION RESISTANCE	
ZM-4/U	31922	008	1273	.5-2MEGOHM AT 50/500V	+/- .12 PCT

H-13



## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - BRIDGE UNIVERSAL

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMDE CODE TO NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	---------------------	-----------	--------------------------------

RESISTANCE MEASUREMENT 59600

ZM-41/U	66150	008	1274	0 TO 1.011 MEGOHMS	+/- .15 PCT
ZM-48/U	66150	008	1275	0-1.011 MEGOHMS	+/- .15 PCT
ZM-61/U	28480	008	1284	15 TO 100KOHMS IN 8 RANGES	+/-1 PCT
ZM-69	24655	008	3630	10HM TO 10MEGOHM IN 7 RANGES	+/-1 PCT
ZM-69A	24655	008	3631	.001 TO 1.1MEGOHMS IN 7 RANGES	
ZM-70/U	11837	008	1286	0 TO 12MEGOHMS	+/- .2 PCT
ZM-71/U	28480	008	1287	10MILLIOHM TO 10MEGOHMS IN 7 RANGES	+/-1 PCT
1000	28009	008	1926	1MILLIOHM TO 9.999MEGOHM	+/-1 PCT
1090	28009	008	1379	0 TO 100MEGOHM	+/- .02 PCT
16J44	24655	008	1474	2 TO 20MEGOHMS	
16508	24655	008	1475	1MILLIOHM TO 11MEGOHM	+/- 1 PCT
2318	11837	008	1333	10UCHM TO 12,000 MEGOHMS	
250-A	04901	022	1334	15 TO 100KOHMS	
2700	09553	008	1487	0 TO 1MEGOHM	+/- .01 PCT
290-A-MGD	11837	008	3350	0 TO 1.2MEGOHMS	+/- .5 PCT
315A	11837	008	3592	0 TO 12KOHMS	+/-5 PCT
4271	31922	008	1405	1 TO 100MEGOHM	+/- .005PCT
4285	31922	008	1948	.001OHM TO 26.6OHM	
4735	31922	008	1408	0 TO 1,111MEGOHM	+/-3 PCT
5305	31922	008	1414	0 TO 100KIOHM	+/- .15 PCT
5430A	31922	008	1949	10HM TO 1MEGOHM	+/-1 PCT
7040	79409	022	1420	0 TO 25 OHMS	+/-1 PCT

STORAGE FACTOR (Q) 69700

25	008	9025	RANGE 0.05 TO 1000	+/-5 PCT
----	-----	------	--------------------	----------

H-14

## DEFINITIZATION OF OTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC OTS ETC TYPE DESIGNATOR/  
 NO MFR'S MOL NO MFR'S MODEL NO FSCM CODE IO NO. PARAMETER

ACCURACY -PCT-  
 OR AS STATED

00100

02

047 9002 GENERATOR, SIGNAL, FUNCTION

FG502	80009	047	8011	SIGNAL GENERATOR FUNCTION
142	23338	047	8013	SIGNAL GENERATOR FUNCTION
2000	88865	047	8015	SIGNAL GENERATOR FUNCTION
3312A	28480	047	8014	SIGNAL GENERATOR FUNCTION
7030	21793	047	8012	SIGNAL GENERATOR FUNCTION
AN/USM-108	28569	047	0440	SIGNAL GENERATOR FUNCTION
AN/USM-108B	28569	047	0441	SIGNAL GENERATOR FUNCTION
AN/USM-256	72314	054	0491	SIGNAL GENERATOR SQUARE WAVE
AN/USM-358	80009	054	0537	SIGNAL GENERATOR SQUARE WAVE
F51A	07421	047	1902	SIGNAL GENERATOR FUNCTION
F55A	07421	047	1812	SIGNAL GENERATOR FUNCTION
IG-115	03782	047	1908	SIGNAL GENERATOR FUNCTION
RL-1178/U	28480	047	0791	SIGNAL GENERATOR FUNCTION
SG-106/U	80009	054	0838	SIGNAL GENERATOR SQUARE WAVE
SG-298/U	08775	047	0839	SIGNAL GENERATOR FUNCTION
SG-298A/U	21764	047	0840	SIGNAL GENERATOR FUNCTION
SG-299/U	28569	054	0841	SIGNAL GENERATOR SQUARE WAVE
SG-299B/U	28569	054	0842	SIGNAL GENERATOR SQUARE WAVE
SG-321/U	83563	047	0844	SIGNAL GENERATOR FUNCTION
SG-321B/U	24635	047	0846	SIGNAL GENERATOR FUNCTION
SG-747	28480	047	0872	SIGNAL GENERATOR FUNCTION
SG-769/U	23338	047	0875	SIGNAL GENERATOR FUNCTION
SG-772/G	80009	054	0877	SIGNAL GENERATOR SQUARE WAVE
TS-583/U	28480	054	3636	SIGNAL GENERATOR SQUARE WAVE
TS-583A/U	35225	054	3637	SIGNAL GENERATOR SQUARE WAVE
106 TYRE 2	80009	054	3340	SIGNAL GENERATOR SQUARE WAVE
107	80009	054	1884	SIGNAL GENERATOR SQUARE WAVE
116 VCC	23338	047	1887	SIGNAL GENERATOR FUNCTION
1410	65092	047	1657	SIGNAL GENERATOR FUNCTION
185A	30669	054	1896	SIGNAL GENERATOR SQUARE WAVE AND ELECTRONIC SWITCH
3310A	28480	047	1842	SIGNAL GENERATOR FUNCTION
5048	10597	047	1862	SIGNAL GENERATOR FUNCTION

## DEFINITION OF DTS EYE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC DTS EYE TYPE DESIGNATOR/ FAM TMDR  
 NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
 OR AS STATED

DIMENSIONS IN MM/INS UC110  
 -----

02

047 9002 482.6MM(19 IN)WX152.4MM(6 IN)HX381.0MM(15 IN)H

142  
 2000  
 3312A

23338 047 8013 22CM(9 IN)WX13CM(5 IN)HX29CM(12 IN)D  
 88865 047 8015 22CM(9 IN)WX13CM(5 IN)HX29CM(12 IN)D  
 28480 047 8014 10CM(4 IN)HX21CM(9 IN)WX38(15 IN)D

AN/USM-108 28559 047 0440 25.40CM(10 IN)WX42.48CM(16.725 IN)HX34.93CM(13.75 IN)D  
 AN/USM-108B 28559 047 0441 25.40CM(10 IN)WX42.48CM(16.725 IN)HX34.93CM(13.75 IN)D  
 AN/USM-256 72314 054 0491 20.32CM(8 IN)HX27.94CM(11 IN)HX12.70CM(5 IN)D  
 AN/USM-358 80009 054 0537 22.86(9 IN)WX15CM(6 IN)HX37.47CM(14.75 IN)D  
 F51A 07421 047 1902 21.59CM(8.5 IN)WX13.34CM(5.25 IN)HX31.12CM(12.25 IN)D  
 F55A 07421 047 1812 42.55CM(16.75 IN)WX13.18CM(5.188 IN)HX30.80CM(12.125 IN)D  
 IG-115 03782 047 1908 15.24CM(6 IN)WX18.73CM(7.375 IN)HX10.16CM(4 IN)D  
 PL-1178/U 28480 047 0791 15.40CM(6.063 IN)WX12.07CM(4.75 IN)HX26.04CM(10.25 IN)D  
 SG-106/U 80009 054 0838 41.91CM(16.5 IN)WX35.56CM(14 IN)HX25.40CM(10 IN)D  
 SG-298/U 08775 047 0839 36.83CM(14.5 IN)WX19.05CM(7.5 IN)HX44.45CM(17.5 IN)D  
 SG-298A/U 21764 047 0840 36.83CM(14.5 IN)WX19.05CM(7.5 IN)HX44.45CM(17.5 IN)D  
 SG-299/U 28569 054 0841 35.24CM(13.88 IN)WX24.77CM(9.75 IN)HX35.24CM(13.88 IN)D  
 SG-299B/U 28569 054 0842 35.64CM(13.88 IN)WX24.77CM(9.75 IN)HX35.24CM(13.88 IN)D  
 SG-321/U 83563 047 0844 35.625CM(14.250 IN)WX30.625CM(12.500 IN)HX51.45CM(21 IN)D  
 SG-747 28480 047 0872 27.94CM(11 IN)WX13.34CM(5.25 IN)HX42.55CM(16.75 IN)D  
 SG-769/U 23338 047 0875 13.34CM(5.25 IN)WX19.05CM(7.5 IN)HX19.69CM(7.75 IN)D  
 SG-772/G 80009 054 0877 26.67CM(10.5 IN)WX35.56CM(14 IN)HX48.26CM(19 IN)H  
 TS-583A/U 35225 054 3637 36CM(15 IN)WX16.8CM(7 IN)HX21.6(9 IN)D  
 106 TYPE 2 80009 054 3340 22.86CM(9 IN)WX37.47CM(14.75 IN)HX15.24CM(6 IN)D  
 107 80009 054 1884 17.15CM(6.75 IN)WX26.67CM(10.5 IN)HX27.94CM(11 IN)D  
 116 VCC 23338 047 1887 27.94CM(11 IN)WX13.97CM(5.5 IN)HX30.48CM(12 IN)D  
 1410 65092 047 1657 48.26CM(19 IN)WX17.78CM(7 IN)HX45.72CM(18 IN)D  
 185A 30669 054 1896 18.73CM(7.38 IN)WX29.21CM(11.5 IN)HX33.02CM(13 IN)D  
 202A 28480 047 3345 32.34CM(12.75 IN)WX38.10CM(15 IN)HX52.71CM(20.75 IN)D  
 3310A 28480 047 1842 19.69CM(7.75 IN)WX11.43CM(4.5 IN)HX20.32CM(8 IN)D  
 5048 10597 047 1852 43.18CM(17 IN)WX8.89CM(3.5 IN)HX34.29CM(13.5 IN)D

WEIGHT IN KG/LBS CO120  
 -----

02

047 9002 9KG(20LBS)

142  
 2000

23338 047 8013 3.6KG(8LBS)  
 88865 047 8015 5KG(12LBS)

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC OTS ETE TYPE DESIGNATOR/  
 NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
 OR AS STATED

WEIGHT IN KG/LBS 00120  
 -----

3312A	28480	047	8014	4KG(9LBS)
AN/USM-108	28569	047	0440	13.73KG(30.25LBS)
AN/USM-1088	28569	047	0441	13.73KG(30.25LBS)
AN/USM-256	72314	054	0491	3.41KG(7.5LBS)
AN/USM-358	80009	054	0537	7.26KG(16LBS)
F51A	07421	047	1902	5.90KG(13LBS)
F55A	07421	047	1812	8.63KG(19LBS)
IG-115	03782	047	1908	2.72KG(6LBS)
PL-1178/U	28480	047	0791	1.82KG(4LBS)
SG-106/U	80009	054	0838	15.89KG(35LBS)
SG-298/U	08775	047	0839	9.53KG(21LBS)
SG-298A/U	21764	047	0840	9.53KG(21LBS)
SG-299/U	28569	054	0841	13.62KG(30LBS)
SG-299B/U	28569	054	0842	13.62KG(30LBS)
SG-747	28480	047	0872	9.08KG(20LBS)
SG-769/U	23338	047	0875	3.18KG(7LBS)
SG-772/G	80009	054	0877	6.36KG(14LBS)
TS-583/U	28480	054	3636	15.9KG(35LBS)
106 TYPE 2	80007	054	3340	8.17KG(18LBS)
107	80009	054	1884	2.72KG(6LBS)
116 VCC	23338	047	1897	4.54KG(10LBS)
1410	65092	047	1657	17.25KG(38LBS)
185A	30669	054	1896	7.72KG(17LBS)
202A	28480	047	3345	19.07KG(42LBS)
3310A	28480	047	1842	2.72KG(6LBS)
504B	10597	047	1862	5.90KG(13LBS)

ENCLOSURE (STYLE) 00130  
 -----

02 047 9002 MIL-T-28800 STYLE E W/RACK MOUNT CAPABILITY

2000 88865 047 8015 RACK MOUNT CAPABILITY

PL-1178/U	28480	047	0791	PLUG-IN UNIT
SG-298/U	08775	047	0839	BENCH MOUNTED
SG-299/U	28569	054	0841	BENCH MOUNT
SG-321/U	83563	047	0844	CABINET MOUNTED
SG-747	28480	047	0872	BENCH MOUNTED

## DEFINITIZATION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC QTS ETE TYPE DESIGNATOR/ FAM TMOE  
 NO MFR'S MOL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
 OR AS STATED

ENCLOSURE (STYLE) 00130

SG-769/U	23338	047	0875	BENCH MOUNTED
SG-772/G	80009	054	0877	PACK MOUNTED
202A	28480	047	3345	CABINET OR PACK MOUNT

PWR SOURCE(S)/CONSUMPTION 00140

02 047 9002 TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/50W

142	23338	047	8013	50-400HZ S-PHASE 105-125/200-250VAC/30W
2000	88865	047	8015	50-400HZ S-PHASE 105-125/210-250VAC/50W

AN/USM-108	28569	047	0440	50-60 HZ S-PHASE 115/230VAC/240W
AN/USM-108B	28569	047	0441	50-60 HZ S-PHASE 115/230VAC/240W
AN/USM-256	72314	054	0491	50-400HZ S-PHASE 105/125VAC/20W
AN/USM-358	80009	054	0537	50-60HZ S-PHASE 103/253VAC/85W
F51A	07421	047	1902	50-400HZ S-PHASE 115/230VAC 35W
F55A	07421	047	1812	50-400HZ S-PHASE 115-230VAC 50W
IG-115	03782	047	1908	60 HZ S-PHASE 115VAC
SG-106/U	80009	054	0838	50-60HZ S-PHASE 125/250VAC/250W
SG-298/U	08775	047	0839	50-1000 HZ S-PHASE 115/230VAC
SG-298A/L	21764	047	0840	50-1000 HZ S-PHASE 115/230VAC
SG-299/U	28569	054	0841	50-60HZ S-PHASE 115/230VAC/210W
SG-299B/U	28569	054	0842	50-60HZ S-PHASE 115/230VAC/210W
SG-321/U	83563	047	0844	50-400HZ S-PHASE 115/230VAC
SG-747	28480	047	0872	50-400HZ S-PHASE 115/230VAC
SG-769/U	23338	047	0875	50-400 HZ S-PHASE 115/230VAC 10W
SG-772/G	80009	054	0877	50-60HZ S-PHASE 105/125VAC/250W
TS-583A/U	35225	054	3637	50-60HZ S-PHASE 115VAC/100W
106 TYPE 2	80009	054	3340	50-60HZ S-PHASE 151/230VAC/85W
107	80009	054	1884	50-60HZ S-PHASE 105/125VAC/100W
116 VCC	23338	047	1887	60HZ S-PHASE 115VAC
1410	65092	047	1657	50-400HZ S-PHASE 115-230VAC 120W
202A	28480	047	3345	50-400HZ S-PHASE 115VAC 150W
3310A	28480	047	1842	50-400HZ S-PHASE 115/230VAC 20W
5048	10597	047	1862	50-400HZ S-PHASE 115-230VAC 12W

H-18

## DEFINITIZATION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC QTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMDE IO NO.	PARAMETER
---------------------------------	------------------------------------	------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

MTBF SPECIFIED/PREDICTED 00150

02

047 9002 2500 HRS

PRIMARY CONNECTORS 00170

02

047 9002 BNC

AN/USM-108	28569	047	0440	CABLES VIA BANANA JACKS
AN/USM-108B	28569	047	0441	CABLES VIA BANANA JACKS
F55A	07421	047	1812	BNC CABLE
PL-1178/U	28480	047	0791	PLUGS IN SG-747/U
1410	65092	047	1657	CABLES VIA BANANA JACKS
202A	28480	047	3345	CABLES VIA BANANA JACKS
504B	10597	047	1862	CABLES

ENVIRONMENTAL CONDITIONS 00200

02

047 9002 MIL-T-28800 TYPE II CLASS 5 STYLE E COLDR

SG-769/U 23338 047 0875 25C=5C

TEMP OPER/NON-OPERATING 00210

02

047 9002 0 TO 50C/-55 TO 75C

SG-298/U	08775	047	0839	+131F-(-)4F/+160F-(-)80F
SG-321/U	83563	047	0844	MIL-G-55447A

## OFFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMOE ID NO.	PARAMETER
---------------------------------	------------------------------------	------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

RELATIVE HUMIDITY 00220

02			047	9002	95(+5-0)
	SG-298/U	08775	047	0839	97-100
	SG-321/U	83563	047	0844	MIL-STD-810

ALTITUDE OPER/NON-OPER 00230

02			047	9002	3050M(10000FT)/12000M(40000FT)
	SG-298/U	08775	047	0839	L*EQ10,000 FT ASL/L*EQ50,000 FT ASL
	SG-321/U	83563	047	0844	MIL-STD-810

VIBRATION LIMIT (MAXIMUM) 00240

02			047	9002	2G
	SG-321/U	83563	047	0844	MIL-STD-810

SHOCK, PULSE LEVEL 00250

02			047	9002	30G
	SG-321/U	83563	047	0844	MIL-STD-810

H-20



## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC OTS ETE NO MFR'S MOL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM CODE	TMDE ID NO.	PARAMETER
---------------------------------	------------------------------------	-------------	----------------	-----------

ACCURACY -PCT- OR AS STATED
--------------------------------

OUTPUT ATTENUATION	03600
--------------------	-------

02	047	9002	NLT 5008 W/10DB VERNIER CALIBRATED IN 108 STEPS
----	-----	------	---

3312A	28480	047	8014	NLT 10 TO CONTINUOUS CONTROL
-------	-------	-----	------	------------------------------

SG-299/U	28569	054	0841	6008 ATTENUATOR VARIABLE IN 2008 STEPS
SG-2998/U	28569	054	0842	6008 ATTENUATOR VARIABLE IN 2008 STEPS
TS-583/U	28480	054	3636	7008 ATTENUATOR IN 508 STEPS

OC OFFSET	15600
-----------	-------

02	047	9002	ADJUSTABLE FROM -10VDC TO +10VDC
----	-----	------	----------------------------------

F51A	07421	047	1902	ADJUSTABLE FROM -10 TO +10V
------	-------	-----	------	-----------------------------

DISTORTION	19200
------------	-------

02	047	9002	DISTORTION NGT .5 PCT
----	-----	------	-----------------------

202A	28480	047	3345	DISTORTION LEVEL LT
------	-------	-----	------	---------------------

+/-1 PCT

FREQUENCY OUTPUT RANGE	25400
------------------------	-------

02	047	9002	.1HZ TO 10MHZ	IN VMT 10 RANGES
----	-----	------	---------------	------------------

+/-5 PCT

FG502	80009	047	8011	.1HZ TO 11MHZ	IN 10 RANGES
142	23338	047	8013	.0005HZ TO 10MHZ	IN 8 RANGES
2000	88865	047	8015	.003HZ TO 30MHZ	IN 8 RANGES
3312A	28480	047	8014	.1HZ TO 13MHZ	
7030	21793	047	8012	.000* TO 11MHZ	

+/- 5 PCT

+/-2 PCT

AN/USM-108	28569	047	0440	50MHZ,10MHZ,5MHZ SINEWAVE
------------	-------	-----	------	---------------------------

H-21

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC OTS ETE TYPE DESIGNATOR/ FAM TMOE  
NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE TO NC. PARAMETER

ACCURACY -PCT-  
OP AS STATED

FREQUENCY OUTPUT RANGE 25400

AN/USM-256	72314	054	0491	7HZ TO 10MHZ		
AN/USM-358	80009	054	0537	10HZ TO 1MHZ	IN 5 RANGES	
F51A	07421	047	1902	0 TO 11MHZ		
F55A	07421	047	1812	0 TO 11MHZ	IN 10 RANGES	
IG-115	03782	047	1908	14KHZ TO 1GHZ		
PL-117B/U	28480	047	0791	10HZ TO 100KHZ		
SG-106/U	80009	054	0838	25HZ TO 1MHZ	IN 9 RANGES	
SG-298/U	08775	047	0839	.008HZ TO 2KHZ	IN 10 BANDS	
SG-298A/L	21764	047	0840	.008 TO 1200HZ	IN 5 BANDS	
SG-299/U	28569	054	0841	1HZ TO 1MHZ	IN 6 RANGES	
SG-299B/U	28569	054	0842	1HZ TO 1MHZ	IN 6 RANGES	
SG-321/U	83563	047	0844	.008 TO 1200HZ		
SG-321B/L	24635	047	0846	.008 TO 1.2KH		
SG-747	28480	047	0872	.01HZ TO 100KHZ	IN 10 RANGES	
SG-769/U	23338	047	0875	.015HZ TO 1MHZ		
SG-772/G	80009	054	0877	25HZ TO 1MHZ	IN 9 RANGES	+/-3 PCT
TS-583/U	28480	054	3636	20HZ TO 20KHZ		
TS-583A/U	35225	054	3637	20HZ TO 10KHZ		
106 TYPE 2	80009	054	3340	10HZ TO 10MHZ		
107	80009	054	1884	400KHZ TO 1MHZ	1 BAND	
116 VCC	23338	047	1887	0 TO 200KHZ		+/-1 PCT
1410	65092	047	1657	.001 TO 10KHZ		+/-0.5 PCT
202A	28480	047	3345	.008 TO 1200HZ		
504B	10597	047	1862	100NANOHZ TO 1MHZ		

OUTPUT FREQUENCY RESPONSE 26800

02

047 9002 VARIATION OF OUT PUT LEVEL BETWEEN BANDS NGT

+/-108

HARMONICS

25000

02

047 9002 SINE WAVE NLT 3008 BELOW FUNDAMENTAL FREQ

2000  
3312A

88865 047 8015 220R BELOW FREQ  
28480 047 8014 GT 3008

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	F4M FSCM	TMDE CODE ID NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	---------------------	-----------	--------------------------------

OUTPUT IMPEDANCE		35200			
------------------	--	-------	--	--	--

02		047	9002	50 OHMS IMPEDANCE OUTPUT	
----	--	-----	------	--------------------------	--

142	23338	047	8013	50 OHMS	
2000	88865	047	8015	50 OHMS	
3312A	28480	047	8014	50 OHMS	
7030	21793	047	8012	50 OHMS	

AN/USM-256	72314	054	0491	50 OR 600 OHMS SELECTABLE	
AN/USM-358	80009	054	0537	50 OHMS	
F51A	07421	047	1902	50 OHMS	
IG-115	03782	047	1908	50 OHMS	
SG-298/U	08775	047	0839	4000 OHMS	
SG-298A/U	21764	047	0840	40 OHMS	
SG-299/U	28569	054	0841	75 & 600 OHMS	
SG-299R/U	28569	054	0842	75 AND 600 OHMS	
SG-321/U	83563	047	0844	4000 OHMS	
SG-321B/U	24635	047	0846	40 OHMS	
SG-747	28480	047	0872	600 OHMS	
SG-769/U	23338	047	0875	50 AND 600 OHMS	
SG-772/G	86009	054	0877	50 OHMS	
TS-583/U	28480	054	3636	500 OR 1000 OHMS	
TS-583A/U	35225	054	3637	1000 OHMS	
106 TYPE 2	80009	054	3340	50 OHMS	
107	80009	054	1884	50 OHMS	

LINEARITY		39500			
-----------	--	-------	--	--	--

02		047	9032	SAWTOOTH & TRIANGLE WAVE LINEARITY ERROR AT 100HZ	
----	--	-----	------	---	--

LT 1 PCT

142	23338	047	8013	LT .0005	
3312A	28480	047	8014		

+/- .5 PCT

## DEFINITION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC OTS ETE NO	MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TIME ID NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
--------------------	--------------	------------------------------------	------	-------------	----------------	-----------	--------------------------------

OUTPUT SIGNALS	50000
----------------	-------

02	047	9002	SELECT WAVEFORMS SINE,SQUARE,PULSE,TRIANGLE & SAWTOOTH				
----	-----	------	--	--	--	--	--

FG502	80009	047	8011	SINE,SQUARE,TRIANGLE,PULSE AND SAWTOOTH			
142	23338	047	8013	SINE,SQUARE,TRIANGLE,PULSE AND SAWTOOTH WAVE FORMS			
2000	88865	047	8015	SINE,SQUARE,TRIANGLE,RAMP,PULSES			
3312A	28480	047	8014	SAWTOOTH,SQUARE,SINE,TRIANGLE AND PULSE			

AN/USM-108	28569	047	0440	SINEWAVE AND PULSE MARKERS			
AN/USM-256	72314	054	0491	SQUARE WAVE AND TRIGGER PULSES			
AN/USM-358	80009	054	0537	SQUARE WAVE POS OR NEG			
F51A	07421	047	1902	SINE,SQUARE,TRIANGLE AND RAMP WAVE FORMS			
F55A	07421	047	1812	SINE,SQUARE,TRIANGLE WAVE(W/RAMP AND PULSE TO 5MHZ)			
PL-1178/U	28490	047	0791	OFF SET SINE AND PULSE			
SG-298/U	08775	047	0839	SINE,SQUARE,TRIANGLE			
SG-298A/U	21764	047	0840	SINE,SQUARE,TRIANGULAR			
SG-299/U	28569	054	0841	SQUARE WAVE			
SG-299B/U	28569	054	0842	SQUARE WAVE			
SG-321/U	83563	047	0844	SINE,TRIANGLE,SQUARE WAVES			
SG-3218/U	24635	047	0846	SINE,TRIANGLE,SQUARE WAVE			
SG-747	28480	047	0872	SINE,SQUARE,TRIANGLE			
SG-769/U	23338	047	0875	SINE,TRIANGLE,SQUARE WAVE			
SG-772/G	80009	054	0877	SQUARE WAVE			
TS-583/U	28480	054	3636	SQUARE WAVE			
TS-583A/U	35225	054	3637	SQUARE WAVE			
I06 TYPE 2	80009	054	3340	SQUARE WAVE POS & NEG			
I07	80009	054	1884	SQUARE WAVE			
1410	65092	047	1657	SINE,SQUARE,SUPPRESSED CARRIER			
202A	28480	047	3345	SINE,SQUARE,TRIANGLE			
3310A	28480	047	1842	SINE,SQUARE,PULSE,RAMP WAVEFORMS			
5048	10597	047	1862	SINE,SQUARE,TRIANGLE,PULSE			

PULSE WIDTH	56010
-------------	-------

02	047	9002	NLT .1US TO 5SEC CONTINUOUSLY VARIABLE				
----	-----	------	--	--	--	--	--

I09	80009	054	1885	300NSEC			
-----	-------	-----	------	---------	--	--	--

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMDE IO NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	------	-------------	----------------	-----------	--------------------------------

PULSE MD0, TRANS TIME 56430

02

047 9032 THE RISE &amp; FALL TIME OF SQ-WAVE &amp; PULSE LT 2INSEC EACH

142

23338 047 8013 20 NANOSEC

SYNCHRONIZATION OUTPUT 74800

02

047 9002 SYNC OUTPUT TO 1V P/P SQ-WAVE W/500HM IMPED +/-100HMS

RF VOLTAGE OUTPUT 85600

02

047 9002 10V P/P AT 50 OHM LOAD

+/-108

142  
2000  
3312A

23338	047	8013	4V P/P AT 50 OHM LOAD
88865	047	8015	30V P/P AT 50 OHM LOAD
28480	047	8014	10V P/P AT 50 OHM LOAD

AN/USM-108	28569	047	0440	3V ACROSS 52 OHM LOAD
AN/USM-1088	28569	047	0441	1V (MARKER), 3V (SINWAVE) 5V (TRIGGER PULSE AT 50 OHMS)
AN/USM-256	72314	054	0491	3V AT 50 OHMS & 20V AT 600 OHMS
AN/USM-358	80009	054	0537	2.5 TO 50V ACROSS 50 OHM LOAD
F55A	07421	047	1812	15V P/P
SG-106/U	80009	054	0838	0 TO 100V ACROSS 600 OHM LOAD
SG-298/U	08775	047	0839	30V P/P
SG-299/U	28569	054	0841	0 TO 7V P/P ACROSS 75 OHM LOAD 50V ACROSS 600 OHMS
SG-299/U	28569	054	0841	0 TO 7V P/P ACROSS 75 OHM LOAD 50V ACROSS 600 OHMS
SG-321/U	83563	047	0844	30V P/P ACROSS 4000 OHM LOAD
SG-747	28480	047	0872	35V P/P
SG-769/U	23338	047	0875	5V P/P ACROSS 50 OHM LOAD
SG-772/G	80009	054	0877	0-15V ACROSS 50 OHM LOAD
TS-583/U	28480	054	3636	50V P/P
TS-583A/U	35225	054	3637	60V P/P
106 TYPE 2	80009	054	3340	.5 TO 12V
107	80009	054	1884	.1 TO .5V
202A	28480	047	3345	30V P/P ACROSS 4K OHM LOAD
3310A	28480	047	1942	0 TO 4608

+/-

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC OTS ETE TYPE DESIGNATOR / FAM TMDE  
NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE 10 NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

00100

04

050 9004 GENERATOR, SIGNAL, PULSE

PG508	80009	050	8016	SIGNAL GENERATOR PULSE
P22	07421	050	8020	SIGNAL GENERATOR PULSE
101A	00000	050	8019	SIGNAL GENERATOR PULSE
110B	15933	050	8018	SIGNAL GENERATOR PULSE
302A	26483	050	8017	SIGNAL GENERATOR PULSE

AN/GPM-15	82076	050	0159	SIGNAL GENERATOR PULSE
AN/GPM-15A	82076	050	0160	SIGNAL GENERATOR PULSE
AN/PPM-1	28480	050	0239	SIGNAL GENERATOR PULSE
AN/PPM-1A	28480	050	3596	SIGNAL GENERATOR PULSE
AN/UPM-15	98179	050	0316	SIGNAL GENERATOR PULSE
AN/UPM-15A	15196	050	0317	SIGNAL GENERATOR PULSE
AN/USM-255	72314	050	0490	SIGNAL GENERATOR PULSE
AN/USM-271	80009	050	0500	SIGNAL GENERATOR PULSE
AN/USM-359	80009	050	3617	SIGNAL GENERATOR PULSE
AN/USM-374	80009	050	0541	SIGNAL GENERATOR PULSE
B7B	06692	050	3251	SIGNAL GENERATOR PULSE
K7006	28480	050	3273	SIGNAL GENERATOR PULSE
MP-1	04596	050	1912	SIGNAL GENERATOR PULSE
PG-32	24141	050	1914	SIGNAL GENERATOR PULSE
RCO 20006	23495	050	3287	OSCILLATOR DUAL PHASE
SG-1105/U	28480	050	2067	SIGNAL GENERATOR PULSE
SG-343/UPM-15A	15196	050	0850	SIGNAL GENERATOR PULSE
SG-366/U	80138	050	0851	SIGNAL GENERATOR PULSE
SG-366A/U	80138	050	0852	SIGNAL GENERATOR PULSE
SG-475/APS-94	06344	050	0855	SIGNAL GENERATOR PULSE
SG-633/UPM-10	36004	050	0827	SIGNAL GENERATOR PULSE
SG-69/PPM	28480	050	0818	SIGNAL GENERATOR PULSE
SG-69A/PPM-1	28480	050	0830	SIGNAL GENERATOR PULSE
SG-693/PPM-1	28480	050	0831	SIGNAL GENERATOR PULSE
TG-501	80009	050	1795	TIME MARK GENERATOR
TS-592/UPM-15		050	1058	SIGNAL GENERATOR PULSE
TS-592A/UPM-15	88585	050	1059	SIGNAL GENERATOR PULSE
101	15933	050	1883	PULSE GENERATOR
1013	82199	050	1874	SIGNAL GENERATOR PULSE
109	80009	054	1885	SIGNAL GENERATOR PULSE
1105A	28480	050	2562	SIGNAL GENERATOR PULSE
1217C	24655	050	1830	SIGNAL GENERATOR PULSE
132A	13488	050	1889	SIGNAL GENERATOR PULSE
139B	13488	050	1890	SIGNAL GENERATOR PULSE
1920A	28480	050	1838	SIGNAL GENERATOR PULSE

H-26

## DEFINITIZATION OF DTS ETE SPECIFICATIONS

06/21/79

FAMILY NAME - GENERATOR, SIGNAL, FUNCTION

SPEC DTS ETE TYPE DESIGNATOR/  
 NO MFR'S MCL NO MFR'S MODEL NO FSCM CODE IO NO. PARAMETER

ACCURACY -PCT-  
 OR AS STATED

PULSE MOD, TRANS TIME 56430  
 -----

02 047 9002 THE RISE & FALL TIME OF SQ-WAVE & PULSE LT 21NSEC EACH  
 142 23338 047 8013 20 NANOSEC

SYNCHRONIZATION OUTPUT 74800  
 -----

02 047 9002 SYNC OUTPUT TO 1V P/P SQ-WAVE W/500HM IMPED +/-100HMS

RF VOLTAGE OUTPUT 85600  
 -----

02 047 9002 10V P/P AT 50 OHM LOAD +/-10DB  
 142 23338 047 8013 4V P/P AT 50 OHM LOAD  
 2000 88865 047 8015 30V P/P AT 50 OHM LOAD  
 3312A 28480 047 8014 10V P/P AT 50 OHM LOAD

AN/USM-108 28569 047 0440 3V ACROSS 52 OHM LOAD  
 AN/USM-1088 28569 047 0441 1V (MARKER), 3V (SINWAVE) 5V (TRIGGER PULSE AT 50 OHMS)  
 AN/USM-256 72314 054 0491 3V AT 50 OHMS & 20V AT 600 OHMS  
 AN/USM-358 80009 054 0537 2.5 TO 50V ACROSS 50 OHM LOAD  
 F55A 07421 047 1812 15V P/P  
 SG-106/U 80009 054 0838 0 TO 100V ACROSS 600 OHM LOAD  
 SG-298/U 08775 047 0839 30V P/P  
 SG-299/U 28569 054 0841 0 TO 7V P/P ACROSS 75 OHM LOAD 50V ACROSS 600 OHMS  
 SG-299/U 28569 054 0841 0 TO 7V P/P ACROSS 75 OHM LOAD 50V ACROSS 600 OHMS  
 SG-321/U 83563 047 0844 30V P/P ACROSS 4000 OHM LOAD +/-  
 SG-747 28480 047 0872 35V P/P  
 SG-769/U 23338 047 0875 5V P/P ACROSS 50 OHM LOAD  
 SG-772/G 80009 054 0877 0-15V ACROSS 50 OHM LOAD  
 TS-583/U 28480 054 3636 50V P/P  
 TS-583A/U 35225 054 3637 60V P/P  
 106 TYPE 2 80009 054 3340 .5 TO 12V  
 107 80009 054 1884 .1 TO .5V  
 202A 28480 047 3345 30V P/P ACROSS 4K OHM LOAD  
 3310A 28480 047 1942 0 TO 4608



## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - 'GENERATOR, SIGNAL, PULSE

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMDE CODE IO NO	PARAMETER
---------------------------------	------------------------------------	-------------	--------------------	-----------

ACCURACY -PCT-  
OR AS STATED

00100

04

050 9004 GENERATOR, SIGNAL, PULSE

PG508		80009	050	8016	SIGNAL GENERATOR PULSE
P22		07421	050	8020	SIGNAL GENERATOR PULSE
101A		00000	050	8019	SIGNAL GENERATOR PULSE
1108		15933	050	8018	SIGNAL GENERATOR PULSE
302A		26483	050	8017	SIGNAL GENERATOR PULSE

AN/GPM-15	82076	050	0159	SIGNAL GENERATOR PULSE
AN/GPM-15A	82076	050	0160	SIGNAL GENERATOR PULSE
AN/PPM-1	28480	050	0239	SIGNAL GENERATOR PULSE
AN/PPM-1A	28480	050	3596	SIGNAL GENERATOR PULSE
AN/UPM-15	98179	050	0316	SIGNAL GENERATOR PULSE
AN/UPM-15A	15196	050	0317	SIGNAL GENERATOR PULSE
AN/USM-255	72314	050	0490	SIGNAL GENERATOR PULSE
AN/USM-271	80009	050	0500	SIGNAL GENERATOR PULSE
AN/USM-359	80009	050	3617	SIGNAL GENERATOR PULSE
AN/USM-374	80009	050	0541	SIGNAL GENERATOR PULSE
87B	06692	050	3251	SIGNAL GENERATOR PULSE
K7076	28480	050	3273	SIGNAL GENERATOR PULSE
MP-1	04596	050	1912	SIGNAL GENERATOR PULSE
PG-32	24141	050	1914	SIGNAL GENERATOR PULSE
PCD 20006	23495	050	3297	OSCILLATOR DUAL PHASE
SG-1105/U	28480	050	2067	SIGNAL GENERATOR PULSE
SG-343/UPM-15A	15196	050	0850	SIGNAL GENERATOR PULSE
SG-366/U	80138	050	0851	SIGNAL GENERATOR PULSE
SG-366A/U	80138	050	0852	SIGNAL GENERATOR PULSE
SG-475/APS-94	06344	050	0855	SIGNAL GENERATOR PULSE
SG-633/UPM-10	36004	050	0827	SIGNAL GENERATOR PULSE
SG-69/PPM	28480	050	0818	SIGNAL GENERATOR PULSE
SG-69A/PPM-1	28480	050	0830	SIGNAL GENERATOR PULSE
SG-693/PPM-1	28480	050	0831	SIGNAL GENERATOR PULSE
TG-501	80009	050	1795	TIME MARK GENERATOR
TS-592/UPM-15		050	1058	SIGNAL GENERATOR PULSE
TS-592A/UPM-15	88585	050	1059	SIGNAL GENERATOR PULSE
101	15933	050	1883	PULSE GENERATOR
1013	82199	050	1874	SIGNAL GENERATOR PULSE
109	80009	054	1885	SIGNAL GENERATOR PULSE
1105A	28480	050	2562	SIGNAL GENERATOR PULSE
1217C	24655	050	1830	SIGNAL GENERATOR PULSE
132A	13488	050	1889	SIGNAL GENERATOR PULSE
139B	13488	050	1890	SIGNAL GENERATOR PULSE
1920A	28480	050	1838	SIGNAL GENERATOR PULSE

## DEFINITIZATION OF DTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC DTS ETC NO MFR'S MOL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMDE CODE ID NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	---------------------	-----------	--------------------------------

00100

2133	28480	050	1850	SIGNAL GENERATOR PULSE	
214A	28480	050	3348	SIGNAL GENERATOR PULSE	
216A	28480	050	1851	SIGNAL GENERATOR PULSE	
219AR	28480	050	1852	GENERATOR DIGITAL DELAY	
222A	28480	050	1853	SIGNAL GENERATOR PULSE	
2901	80009	050	1849	GENERATOR TIME MARK	
3450D	92110	050	1844	SIGNAL GENERATOR PULSE	
5070B	60138	050	2576	SIGNAL GENERATOR PULSE	
6254-5	13222	050	1848	SIGNAL GENERATOR PULSE	
80353	28480	050	1849	SIGNAL GENERATOR PULSE	

DIMENSIONS IN MM/INS 00110

04

050 9004 440MM(17IN)WX180MM(6.5IN)HX360MM(13.5IN)

PG508	80009	050	8016	15CM(6IN)WX22CM(9IN)HX39CM(15IN)D	
P22	07421	050	8020	43CM(17IN)WX9CM(4IN)HX34CM(14IN)D	
110B	15933	050	8018	43CM(17IN)WX13CM(5IN)HX35CM(14IN)D	
302A	26483	050	8017	19CM(8IN)WX11CM(4IN)HX23CM(8IN)D	

AN/GPM-15	82076	050	0159	31.12CM(12.25IN)WX23.50CM(9.25IN)HX17.78CM(7IN)D	
AN/GPM-15A	82076	050	0160	31.12CM(12.25IN)WX23.50CM(9.25IN)HX17.78CM(7IN)D	
AN/PPM-1	28480	050	0239	26.67CM(10.5IN)WX36.83CM(14.5IN)HX48.26CM(19IN)D	
AN/UPM-15	98179	050	0316	50.17CM(19.75IN)WX40.01CM(15.75IN)HX58.42CM(23IN)D	
AN/UPM-15A	15196	050	0317	50.17CM(19.75IN)WX40.01CM(15.75IN)HX58.42CM(23IN)D	
AN/USM-255	72314	050	0490	21.59CM(8.5IN)WX29.21CM(11.5IN)HX13.34CM(5.25IN)D	
AN/USM-271	80009	050	0500	22.86CM(9IN)WX37.47CM(14.75IN)HX15.24CM(6IN)D	
AN/USM-359	80009	050	3617	22.86CM(9IN)WX15.24CM(6IN)HX45.40CM(17.875IN)	
AN/USM-374	80009	050	0541	16.04CM(6.313IN)WX28.74CM(11.313IN)HX29.05CM(11.438IN)W	
B7B	06692	050	3251	49.53CM(19.5IN)WX33.02CM(13IN)HX22.23CM(8.75IN)D	
K7006	28480	050	3273	17.78CM(7IN)WX48.26CM(19IN)HX15.24CM(6IN)D	
MD-1	04596	050	1912	15.24CM(6IN)WX20.96CM(8.25IN)HX20.32CM(8IN)D	
PG-32	24141	050	1914	43.18CM(17IN)WX39.10CM(15IN)HX8.89CM(3.5IN)D	
RCD 20006	23475	050	3287	48.26CM(19IN)WX40.64CM(16IN)HX7.62CM(3IN)D	
SG-1105/U	28480	050	2067	14.22CM(5.6IN)WX33.02CM(13IN)HX20.07CM(7.9IN)D	
SG-343/UPM-15A	15196	050	0850	27.94CM(11IN)WX35.56CM(14IN)HX48.26CM(19IN)D	
SG-366/U	80138	050	0851	38.74CM(15.25IN)WX49.53CM(19.5IN)HX24.45CM(9.625IN)D	
SG-366A/U	80138	050	0852	49.53CM(19.5IN)WX29.32CM(8IN)HX34.29CM(13.5IN)D	
SG-475/APS-94	06344	050	0855	38.10CM(15IN)WX48.26CM(19IN)HX13.34CM(5.25IN)D	
SG-638/UPM-10	36004	050	0827	43.94CM(17.3IN)WX21.34CM(8.4IN)HX8.89CM(3.5IN)D	

H-27

## OFFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC OTS ETE TYPE DESIGNATOR/  
NO MFR'S MOL NO MFR'S MODEL NO FSCM CODE IO NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

DIMENSIONS IN MM/(NS) 00110

SG-69/PPM	28480	050	0818	52.71CM(20.75IN)WX32.39CM(12.75IN)HX36.04CM(14.18IN)D
SG-69A/PPM-1	28480	050	0830	52.71CM(20.75IN)WX32.39CM(12.75IN)HX36.20CM(14.25IN)D
SG-69B/PPM-1	28480	050	0831	52.71CM(20.75IN)WX32.39CM(12.75IN)HX36.04CM(14.18IN)D
TG-501	80009	050	1795	6.60CM(2.6IN)WX12.70CM(5IN)HX30.99CM(12.2IN)D
TS-592/UPM-15		050	1058	37.15CM(14.625IN)WX30.16CM(11.875IN)HX51.60CM(20.313IN)D
TS-592A/UPM-15	88585	050	1059	37.15CM(14.625IN)WX30.16CM(11.875IN)HX51.60CM(20.313IN)D
101	15933	050	1883	27.94CM(11IN)WX8.89CM(3.5IN)HX21.59CM(8.5IN)D
1013	82199	050	1874	38.10CM(15IN)WX20.32CM(8IN)HX48.26CM(19IN)D
109	80009	050	1885	12.70CM(5IN)WX20.32CM(8IN)HX30.48CM(12IN)D
1105A	28480	050	2562	13.34CM(5.25IN)WX5.38CM(2.12IN)HX17.53CM(6.9IN)D
1217C	24655	050	1830	14.61CM(5.75IN)WX15.88CM(6.25IN)HX50.80CM(20IN)D
1324	13486	050	1889	48.26CM(19IN)WX27.94CM(11IN)HX17.78CM(7IN)D
1398	13488	050	1890	43.18CM(17IN)WX15.24CM(6IN)HX30.48CM(12IN)D
1920A	28480	050	1838	20.32CM(8IN)WX10.16CM(4IN)HX18.42CM(7.25IN)D
2138	28480	050	1850	13.32CM(5.125IN)WX12.70CM(5IN)HX3.81CM(1.5IN)D
2144	28480	050	3348	42.55CM(16.75IN)WX17.62CM(6.938IN)HX46.67CM(18.375IN)D
216A	28480	050	1851	42.55CM(16.75IN)WX46.67CM(18.375IN)HX13.97CM(5.5IN)D
218AR	28480	050	1852	48.26CM(19IN)WX55.25CM(21.75IN)HX35.56CM(14IN)D
222A	28430	050	1853	13.97CM(5.5IN)WX34.29CM(13.5IN)HX42.55CM(16.75IN)D
2901	80009	050	1840	20.32CM(8IN)WX10.16CM(4IN)HX
3450D	92110	050	1844	24.21CM(11.5IN)WX40.64CM(16IN)HX50.80CM(20IN)D
5073B	80138	050	2576	48.26CM(19IN)WX33.02CM(13IN)HX22.56CM(9IN)D
6254-5	13222	050	1848	21.59CM(8.5IN)WX22.86CM(9IN)HX37.15CM(14.625IN)D
80058	28480	050	1849	42.55CM(16.75IN)WX13.97CM(5.5IN)HX33.66CM(13.25IN)D

WEIGHT IN KG/LBS 00120

04		050	9004	10KG(22.1 LBS)
P22	07421	050	8020	7.2KG(16LBS)
1104	15933	050	8018	10KG(25LBS)
3021	26483	050	8017	3KG(7LBS)

AN/GPM-15	82076	050	0159	7.72KG(17LBS)
AN/GPM-15A	82076	050	0160	7.72KG(17LBS)
AN/PPM-1	28480	050	0239	21.79KG(48LBS)
AN/UPM-15	98179	050	0316	56.75KG(125LBS)
AN/UPM-15A	15196	050	0317	56.75KG(125LBS)
AN/USM-255	72314	050	0490	4.54KG(10LBS)
AN/USM-271	80009	050	0500	5.90KG(13LBS)

## DEFINITION OF QTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC QTS ETC NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMDE ID NO.	PARAMETER
---------------------------------	------------------------------------	------	-------------	----------------	-----------

ACCURACY -PCT-  
OF AS STATED

WEIGHT IN KG/LBS 00120

AN/USM-359	80009	050	3617	6.825KG(15LBS)
AN/USM-374	80009	050	0541	4.09KG(9LBS)
879	06692	050	3251	25.42KG(56LBS)
K7406	28480	050	3273	6.81KG(15LBS)
MP-1	04596	050	1912	3.18KG(7LBS)
PG-32	24141	050	1914	13.62KG(30LBS)
PGO 20006	23405	050	3287	13.62KG(30LBS)
SG-1105/U	28480	050	2067	4.09KG(9LBS)
SG-343/UPM-15A	15196	050	0850	22.70KG(50LBS)
SG-366/U	80138	050	0851	13.62KG(30LBS)
SG-475/APS-S4	06344	050	0855	8.17KG(18LBS)
SG-638/UPM-10	36014	050	0827	5.45KG(12LBS)
SG-69/PPM	28480	050	0818	25.42KG(56LBS)
SG-69A/PPM-1	28480	050	0830	25.42KG(56LBS)
SG-69B/PPM-1	28480	050	0831	25.42KG(56LBS)
TG-501	80009	050	1795	1.36KG(3LBS)
TS-592A/UPM-15	88585	050	1059	36.4KG(80LBS)
101	15933	050	1883	3.63KG(8LBS)
109	80009	054	1885	3.63KG(8LBS)
1105A	28480	050	2562	1.82KG(4LBS)
1217C	24655	050	1830	7.04KG(15.5LBS)
132A	13488	050	1889	9.99KG(22LBS)
139B	13488	050	1890	9.08KG(20LBS)
1920A	28480	050	1838	1.82KG(4LBS)
2138	28480	050	1850	.91KG(2LBS)
214A	28480	050	3348	15.89KG(35LBS)
216A	28480	050	1851	11.35KG(25LBS)
218AR	28480	050	1852	33.60KG(74LBS)
222A	28480	050	1853	8.17KG(18LBS)
2901	80009	050	1840	4.09KG(9LBS)
34500	92110	050	1844	37.68KG(83LBS)
80058	28480	050	1849	7.26KG(16LBS)

ENCLOSURE (STYLE) 00130

04

050 9004 MIL-T-28800 STYLE E W/RACK MOUNT CAPABILITY

PG50B	80009	050	8016	RACK MOUNT CAPABILITY
P22	07421	050	8020	RACK MOUNT CAPABILITY
1103	15933	050	8018	RACK MOUNT CAPABILITY

AN/GPM-15A 82076 050 0160 CASE MOUNTED

## DEFINITION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC OTS ETE TYPE DESIGNATOR/ FAM TMOE  
NO MFR'S MDL NO MFR'S MDL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

ENCLOSURE (STYLE) 00130  
-----

AN/PPM-1	28480	050	0239	PORTABLE
AN/UPM-15	98179	050	0316	PORTABLE
AN/UPM-15A	15196	050	0317	PORTABLE
AN/USM-255	72314	050	0490	PORTABLE
K7006	28480	050	3273	PLUG-IN MODULE
SG-1105/U	28480	050	2067	PORTABLE
SG-366/U	80138	050	0851	PORTABLE
SG-366A/U	80138	050	0852	PORTABLE
SG-475/APS-94	06344	050	0855	RACK MOUNT
SG-69/PPM	28480	050	0818	PORTABLE OR RACK
SG-69A/PPM-1	28480	050	0830	PORTABLE
TS-592/UPM-15		050	1058	PORTABLE
TS-592A/LPM-15	88585	050	1059	PORTABLE
1920A	28480	050	1838	PLUG-IN

PWR SOURCE(S)/CONSUMPTION 00140  
-----

04 050 9034 TYPE II 50,60,400HZ SINGLE PHASE 115/230 VAC/75W

PG508	80009	050	8016	50,60,400HZ S-PHASE 115/230VAC/
222	07421	050	8020	50,60,400HZ S-PHASE 115/230VAC/
110B	15933	050	8018	50,60,400HZ S-PHASE 115/230VAC/150W
302A	26483	050	8017	50,60,400HZ S-PHASE 115/230VAC/20W

AN/GPM-15	82076	050	0159	50-1000HZ S-PHASE 115VAC/38W
AN/GPM-15A	82076	050	0160	50-1000HZ S-PHASE 115VAC/38W
AN/PPM-1	28480	050	0239	50-60HZ S-PHASE 115/230VAC 325W
AN/PPM-1A	28480	050	3596	50-60HZ S-PHASE 115-230VAC
AN/UPM-15	98179	050	0316	50-1000HZ S-PHASE 115VAC/300W
AN/UPM-15A	15196	050	0317	50-1000HZ S-PHASE 115VAC 300W
AN/USM-255	72314	050	0490	60HZ S-PHASE 115VAC
AN/USM-271	80009	050	0500	50-400HZ S-PHASE 115/230VAC 40W
AN/USM-359	80009	050	3617	60HZ S-PHASE 115/230VAC 115W
AN/USM-374	80009	050	0541	50-800HZ S-PHASE 105/125 35W
B7B	06692	050	3251	50-60HZ S-PHASE 115VAC 375W
MP-1	04596	050	1912	7.5VDC BATTERY
PG-32	24141	050	1914	50-60HZ S-PHASE 115/230VAC 110W
RCD 20006	23405	050	3287	50-400HZ S-PHASE 115VAC 70W
SG-1105/U	28480	050	2067	48-440HZ S-PHASE 120/240VAC 80W
SG-343/UPM-15A	15196	050	0850	50-1000HZ S-PHASE 115VAC/300W

H-30

## DEFINITIZATION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC QTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMDE TO NC.	PARAMETER
---------------------------------	------------------------------------	------	-------------	----------------	-----------

ACCURACY -PCT- OR AS STATED
--------------------------------

## PWR SOURCE(S)/CONSUMPTION 00140

SG-366/U	80138	050	0851	60HZ S-PHASE 105/125VAC/110W
SG-366A/U	80138	050	0852	60HZ S-PHASE 105/125VAC 15W
SG-475/APS-94	06344	050	0855	60HZ S-PHASE 115VAC 25W
SG-638/UPM-10	36004	050	0827	50-1600HZ S-PHASE 115VAC
SG-69/PPM	28480	050	0818	50-60HZ S-PHASE 115-230VAC 325W
SG-69A/PPM-1	28480	050	0830	50-60HZ S-PHASE 115/230VAC/380W
SG-69B/PPM-1	28480	050	0831	50-60HZ S-PHASE 115-230VAC 325W
TS-592/UPM-15		050	1058	50-1000HZ S-PHASE 115VAC
TS-592A/UPM-15	88585	050	1059	50-1000HZ S-PHASE 115VAC
101	15933	050	1883	50-400HZ S-PHASE 115/230VAC 15W
1013	82199	050	1874	50-4000HZ S-PHASE 115/230VAC 70W
109	80009	054	1885	50-800HZ S-PHASE 115VAC/60W
11054	28480	050	2562	50-400HZ S-PHASE 45VAC/1W
1217C	24655	050	1830	50-60HZ S-PHASE 115VAC 90W
132A	13488	050	1889	50-60HZ S-PHASE 105/125VAC
139B	13488	050	1890	50-60HZ S-PHASE 105/125VAC 75W
213B	28480	050	1850	50-1000HZ S-PHASE 115/230VAC 1W
214A	28480	050	3348	50-400HZ S-PHASE 115VAC 325W
216A	28480	050	1851	50-60HZ S-PHASE 115-230VAC/120W
218AR	28480	050	1852	50-60HZ S-PHASE 115/230VAC 555W
222A	28480	050	1853	50-60HZ S-PHASE 115/230VAC 80W
2901	80009	050	1840	60HZ S-PHASE 115VAC
34500	92110	050	1844	50-60HZ S-PHASE 105/125VAC 500W
50708	80138	050	2576	50-60HZ S-PHASE 117VAC 15W
6254-5	13222	050	1848	60HZ S-PHASE 115VAC 200W
80058	28480	050	1849	50-400HZ S-PHASE 115/230VAC 84W

## MT8F SPECIFIED/PREDICTED 00150

04

050 9004 2000 HPS

## PRIMARY CONNECTORS

00170

04

050 9004 SERIES-8NC

AN/GPM-15	82076	050	0159	CABLES & ADAPTERS
AN/USM-271	80009	050	0500	BNC
AN/USM-374	80009	050	0541	CABLES

H-31

## DEFINITIZATION OF ITS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC ITS ETE TYPE DESIGNATOR/ F4M TMDE  
NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

## PRIMARY CONNECTORS 00170

SG-1105/U	28480	050	2067	TEST LEADS
SG-343/UPM-15A	15196	050	0850	CABLES
SG-475/APS-64	06344	050	0855	BNC
SG-69/PPM	28480	050	0818	BNC AND N-TYPE
1013	82199	050	1874	LEADS
1135A	28480	050	2562	BNC
139R	13488	050	1890	TEST PROBES/CABLE HARNESS
1920A	28480	050	1838	CABLES
214A	28480	050	3348	TEST LEADS
222A	28480	050	1853	CABLES
2901	80009	050	1840	COAXIAL CABLE VIA REAR PANEL CONNECTOR
5070R	80138	050	2576	TEST LEADS
6254-5	13222	050	1848	BANANA JACKS

## ENVIRONMENTAL CONDITIONS 00200

04	050	9004	MIL-T-28800 TYPE II CLASS 5 STYLE B COLDP R	
AN/GPM-15	82076	050	0159	MIL-T-21200 CLASS 2

## TEMP OPER/NON-OPERATING 00210

04	050	9004	0 TO 50C/-55 TO 75C	
1108	15933	050	8018	0-50C
AN/GPM-15	82076	050	0159	AS PER METHOD0502 PROCEDURE1&2
AN/GPM-15A	82076	050	0160	-20C-+55C/
AN/USM-359	80009	050	3617	+20C-+30C/0C-+50C



## DEFINITIZATION OF OTS FTE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMOF ID NO.	PARAMETER	ACCURACY -PCT- OP AS STATED
RELATIVE HUMIDITY 00220						
04			050	9004	95(+5-0)	
	AN/GPM-15	82076	050	0159	AS PER METHOD 507 PROCEDURE (COVER REMOVED)	
ALTITUDE OPER/NON-OPER 00230						
04			050	9004	3050M(10000FT)/12000M(40000FT)	
	AN/UJM-359	80009	050	3617	LT 10,000FT/LT 50,000FT	
VIBRATION LIMIT (MAXIMUM) 00240						
04			050	9004	2G	
SHOCK, PULSE LEVEL 00250						
04			050	9004	30G	
OUTPUT ATTENUATION 03600						
04			050	9004	0-90DB IN 10DB STEPS W/10DB VERNIER IN 1DB STEPS	
	SG-69/PPM	28480	050	0818	0-50DB IN 10 DB STEPS	
	SG-69A/PPM-1	28480	050	0830	0-50DB IN 10 DB STEPS	
	50708	80138	050	2576	1010B IN 1DB STEPS	

H-33

34

## DEFINITION OF OTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC OTS ETC NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMDF CODE IO NO	PARAMETER
---------------------------------	------------------------------------	-------------	--------------------	-----------

ACCURACY -PCT-  
OR AS STATED

OUTPUT IMPEDANCE 35200

04

050 9004 50 OHMS

PG508	80009	050	8016	50 OHMS
P22	07421	050	8020	50 OHMS
101A	00000	050	8019	50 OHMS
110B	15933	050	8018	50 OHMS
302A	26433	050	8017	50 OHMS

AN/GPM-15	82076	050	0159	50 OHMS
AN/GPM-15A	82076	050	0160	50 OHMS
AN/PPM-1	28480	050	0239	50 OHMS
AN/PPM-1A	28480	050	3596	50 OHMS
AN/UPM-15	98179	050	0316	50 AND 70 OHMS
AN/UPM-15A	15196	050	0317	50 AND 75 OHMS
AN/USM-255	72314	050	0490	50 AND 1000 OHMS
AN/USM-374	80009	050	0541	50 OHMS
B 78	06692	050	3251	50 OHMS
SG-1105/U	28480	050	2067	50 OHMS
SG-343/UPM-15	15196	050	0850	2500,250,OR 50-MATCHED
SG-366/U	80138	050	0851	50 OHMS
SG-366A/U	80138	050	0852	50 OHMS
SG-475/APS-94	06344	050	0855	100 OHMS
SG-69/PPM	28480	050	0818	50 OHMS
SG-69B/PPM-1	28480	050	0831	50 OHMS
TS-592/UPM-15	050	1058		2500,250(50 OHMS-MATCHED)
TS-592A/UPM-15	98585	050	1059	2500,250(50 OHMS-MATCHED)
109	80009	050	1835	50 OHMS
1105A	28480	050	2562	50 OHMS
222A	28480	050	1853	50 OHMS
50708	80138	050	2576	50 OHMS
80058	28480	050	1849	50 OHMS

OUTPUT SIGNALS 50000

04

050 9004 PULSE OUTPUT W/VARIABLE PULSE WIDTH

AN/GPM-15	82076	050	0159	CONTINUOUS OR PULSE
AN/PPM-1	28480	050	0239	PULSES
AN/PPM-1A	28480	050	3596	SAWTOOTH WAVE PULSE

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC OTS ETE NO MFR'S MOL NO TYPE DESIGNATOR/ MFR'S MODEL NO FSCM FAM CODE ID NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

OUTPUT SIGNALS 50000

B7B	06692	050	3251	SQ WAVE
RCD 20006	23405	050	3287	2 PHASE SINE WAVE REF AND VARIABLE PHASE
SG-366/U	80138	050	0851	CW & PULSE
SG-366A/U	80138	050	0852	CW & PULSED
SG-475/APS-54	06344	050	0855	RECTANGULAR PULSE
SG-638/UPM-10	36004	050	0827	SQ WAVES AND PULSE
1013	82199	050	1874	HETERODYNE PRINCIPAL USING 2 HIGH FREQ DST
109	80009	054	1885	PULSE
1105A	28480	050	2562	TRIGGER BIAS SOURCE CONNECTS TO PULSE GEN SUPPLY
2901	80009	050	1840	MARKERS, SINE WAVES, TRIGGER PULSE INTERVALS
34500	92110	050	1844	VARIABLE WIDTH AND FREQ PULSES
6254-5	13222	050	1848	TRANSIENT SINGLE OR SELECTED RATE
80058	28480	050	1849	TRIPLE OUTPUT PULSE,

PULSE WIDTH 56010

04

050 9004 VARIABLE FROM 10 NANOSECOND TO 1 SECOND

+/- .002 PCT

PG508	80009	050	8016	5NS TO 50MS
P22	07421	050	8020	10NSEC TO 1SEC
101A	00000	050	8019	50NSEC TO 500MSEC
1108	15933	050	8018	3NSEC TO 5MSEC
302A	26483	050	8017	10NSEC

AN/GPM-15	82076	050	0159	40,250,290USEC
AN/GPM-15A	82076	050	0160	.5 TO 1000USEC
AN/PPM-1	28480	050	0239	0 TO 1000USEC
AN/PPM-1A	28480	050	3596	.07 TO 10USEC
AN/UPM-15	98179	050	0316	VARIABLE
AN/USM-359	80009	050	3617	50NSEC TO 50USEC
AN/USM-374	80009	050	0541	2NSEC TO 1.5USEC
B7B	06692	050	3251	.05 TO 10,000USEC
SG-343/UPM-15A	15196	050	0850	1 TO 2 USEC
SG-366A/U	80138	050	0852	.20 TO 20USEC
SG-475/APS-54	06344	050	0855	.5 TO 50USEC
SG-638/UPM-10	36004	050	0827	.55,1,2.35USEC
SG-69/PPM	28480	050	0818	.07 TO 10USEC
SG-69A/PPM-1	28480	050	0830	0 TO 100USEC
SG-698/PPM-1	28480	050	0831	.07 TO 10USEC
TS-592/UPM-15	050	1058		.05 TO 100USEC

ON DIFF RANGES

+/-3 PCT

+/- .1 PCT

+/-10 PCT

+/-1 PCT

## DEFINITION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC OTS ETE TYPE DESIGNATOR / FAM TMDE  
NO MER'S MDL NO MFR'S MODEL NO FSCM CODE IO NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

PULSE WIDTH 56010

TS-592A/UPM-15 88585 050 1059 .5 TO 100USEC  
50708 80138 050 2576 .1 TO 100USEC  
80058 28480 050 1849 25NSEC TO 3SEC

IN 1 RANGE  
IN 5 RANGES

+/- .1 PCT

PULSE MOD, TRANS TIME 56430

04 050 9004 LT 5 MANOSECONDS

P22 07421 050 8020 3.5NSEC  
1014 00000 050 8019 5NSEC  
1108 15933 050 8018 1.3NSEC RISE & FALL  
302A 26483 050 8017 LT 5NSEC

AN/GPM-15 82076 050 0159 18,55,80USEC  
AN/GPM-15A 82076 050 0160 .05 TO .25USEC  
AN/PPM-1 28480 050 0239 70NANOSEC TO 10USEC  
AN/UPM-15 98179 050 0316 500NANOSEC TO 100USEC  
AN/UPM-15A 15196 050 0317 500NSEC TO 100USEC  
AN/USM-255 72314 050 0490 2MSEC TO 200NSEC  
AN/USM-359 80009 050 3617 10NSEC TO 10USEC  
B73 06692 050 3251 0 TO 10MSEC  
PG-32 24141 050 1914 30NSEC TO 1SEC  
SG-343/UPM-15A 15196 050 0850 500NSEC TO 100USEC  
SG-366/U 80138 050 0851 200NSEC TO 20USEC  
SG-366A/U 80138 050 0852 100NSEC TO 100USEC  
SG-475/APS-94 06344 050 0855 100USEC TO 10MSEC  
SG-69/PPM 28480 050 0818 .02USEC  
SG-69B/PPM-1 28480 050 0831 700NSEC TO 10USEC  
TG-501 80009 050 1795 5 TO 10NSEC  
TS-592/UPM-15 050 1058 300NSEC TO 2USEC  
TS-592A/UPM-15 88585 050 1059 2 TO 30USEC  
101 15933 050 1883 40NSEC TO 10MSEC  
1920A 28480 050 1838 0 TO 10USEC  
214A 28480 050 3348 50NSEC TO 10MSEC  
218AR 28480 050 1852 100USEC TO 10MSEC  
222A 28480 050 1853 20NSEC TO 5MSEC  
2901 80009 050 1840 1USEC TO 5  
50708 80138 050 2576 0 TO 3SEC  
80058 28480 050 1849 10MSEC TO 2SEC

ON DIEF RANGES

+/-3 PCT

+/- .05 PCT

IN 6 RANGES

IN 5 RANGES  
IN 5 RANGES  
IN 6 RANGES  
IN 16 STEPS  
IN

+/- .2 PCT

+/- .1 PCT

## OFFINITIZATION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC QTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMDE CODE ID NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
PULSE RATE ----- 5660C					
04		050	9004	10 TO 50MHZ	.005 PCT
PG508		80009	050 8016	5HZ TO 50MHZ	
P22		07421	050 8020	0 TO 50MHZ	
101A		00000	050 8019	1HZ TO 5MHZ	
110B		15933	050 8018	0 TO 125MHZ	
302A		26483	050 8017	10HZ TO 50MHZ	
AN/GPM-15	82076	050	0159	100KHZ TO 1.950MHZ	IN 6 RANGES
AN/GPM-15A	82076	050	0160	100KHZ TO 1.950MHZ	IN 6 RANGES
AN/PPM-1	28480	050	0239	50 TO 5000 PULSE REPETITION	
AN/JPM-15	98179	050	0316	50 TO 10,000 PULSE REPETITION RATE	
AN/JPM-15A	15196	050	0317	50 TO 10,000 PULSE REPETITION	
AN/USM-255	72314	050	0490	50HZ TO 5MHZ	
AN/USM-359	80009	050	3617	0 TO 10MHZ PULSE REPETITION	
AN/USM-374	80009	050	0541	10 TO 10KHZ PULSE REPETITION RATE	
B73	06692	050	3251	0 TO 2MHZ PULSE REPETITION	
K7006	28480	050	3273	18 TO 26.50GHZ PART OF AN/USM-234	
MP-1	04596	050	1912	10 + 1.6MHZ	
RCD 20006	23405	050	3287	1 TO 99.99KHZ	
SG-1105/U	28480	050	2067	1 TO 50MHZ	
SG-343/UPM-15A	15196	050	0850	50HZ TO 10KHZ PULSE REPETITION	IN 3 RANGES
SG-366/U	80138	050	0851	12 TO 80MHZ W/400-4000 PPS RATE	IN 5 RANGES
SG-366A/U	80138	050	0852	10 TO 120MHZ W/50 TO 5KHZ PULSE REPETITION	
SG-475/APS-94	06344	050	0855	10 TO 10KHZ PULSE REPETITION RATE	
SG-638/UPM-10	36004	050	0827	200 TO 2500HZ PULSE REPETITION	
SG-69/PPM	28480	050	0818	50 TO 5KHZ PULSE REPETITION	
SG-69A/PPM-1	28480	050	0830	2 TO 5KHZ PULSE REPETITION RATE	IN 2 RANGES
SG-69B/PPM-1	28480	050	0831	50 TO 5KHZ PULSE REPETITION	
TG-501	80009	050	1795	0 TO 5MHZ	
TS-592/UPM-15		050	1058	50 TO 10KHZ PULSE REPETITION	
TS-592A/UPM-15	88585	050	1059	50 TO 10KHZ PULSE REPETITION	
101	15933	050	1883	10HZ TO 10MHZ PULSE REPETITION RATE	IN 8 RANGES
1013	82199	050	1874	200HZ TO 200KHZ	
109	80009	054	1885	.5NSEC TO 100NSEC	
1105A	28480	050	2562	0 TO 100KHZ	
1217C	24655	050	1830	0 TO 2.4MHZ W/100NSEC TO 1SEC	IN 7 RANGES
132A	13488	050	1899	5 TO 3.5MHZ	
139B	13488	050	1890	10 TO 50MHZ	
1920A	28480	050	1838	0 TO 25MHZ	
213B	28480	050	1850	0 TO 1MHZ	
214A	28480	050	3348	10 TO 1MHZ	IN 5 RANGES
216A	28480	050	1851	1 TO 100MHZ W/PPS 5NSEC TO 100NSEC	IN 3 RANGES

H-37

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMDE ID NO.	PARAMETER	ACCURACY -PCT- OP AS STATED
---------------------------------	------------------------------------	------	-------------	----------------	-----------	--------------------------------

PULSE RATE 56600

222A	28480	050	1853	10 TO 10MHZ	IN 6 RANGES	+/- .3 PCT
2901	80009	050	1840	50 TO 10MHZ		
50708	80138	050	2576	10 TO 120MHZ	W/PPS 50 TO 50KHZ PULSE RATE IN 5 RANGES	
6254-5	13222	050	1848	.5 TO 40PPS		
80158	28480	050	1849	.3HZ TO 20MHZ	IN 5 RANGES	

SYNCHRONIZATION, MODE OF 74400

04	050	9004	INTERNAL & EXTERNAL SYNC PULSE MODE CAPABILITY			
AN/GPM-15A	82076	050	0160	SYNC SIGNALS OF 5 TO 75V WITHIN 50 TO 10,000HZ INT & EXT		
AN/PPM-1A	28480	050	3596	INT AND EXT		
AN/UPM-15A	15196	050	0317	INT AND EXT SYNC		
AN/USM-255	72314	050	0490	GATED		
AN/USM-359	80009	050	3617	UNDELAYED PULSE, PAIRED PULSES, EXT TRIGGER, EXT GATE PULSE		
AN/USM-374	80009	050	0541	INT AND EXT		
B7B	06692	050	3251	INT OR EXT SYNC W/+ OR - POLARITY		
SG-1105/U	28480	050	2067	EXT CONTROLLED, VARIABLE REP RATE, DELAY, WIDTH & DC OFFSET		
SG-343/UPM-15A	15196	050	0850	INT OR EXT SYNC W/SINGLE OR DOUBLE PULSE		
SG-366A/U	80138	050	0852	INT OR EXT SYNC		
SG-475/APS-94	06344	050	0855	INT OR EXT SYNC DELAY OR NORMAL		
SG-638/UPM-10	36004	050	0827	INT SYNC		
SG-69/PPM	28480	050	0818	INT OR EXT SYNC W/DELAY UPTO 100USEC + OR - POLARITY		
SG-69A/PPM-1	28480	050	0830	INT SYNC W/DELAY OUTPUT UPTO 100USEC		
SG-69B/PPM-1	28480	050	0831	INT OR EXT SYNC W/+ OR - POLARITY		
TS-592/UPM-15	050	1058		INT OR EXT SYNC W/1 OR PULSES + OR - POLARITY		
TS-592A/UPM-15	88585	050	1059	INT OR EXT SYNC W/SINGLE OR DOUBLE PULSES		
101	15933	050	1893	SINEWAVE TRIGGER, SINGLE OR DOUBLE PULSE		
132A	13488	050	1839	+ AND - POLARITY, W/ADJUSTABLE PULSE WIDTH AND RATE		
1398	13488	050	1890	DELAY PULSE VARIABLE, DC OFFSET -2V TO +2V		
214A	28480	050	3348	VARIABLE WIDTH & AMPLITUDE PULSE, + AND - PULSE		
218A	28480	050	1852	INT OR EXT TRIGGERING		
222A	28480	050	1853	EXT TRIGGERING + OR - POLARITY, PULSE WIDTH VARIABLE		
2901	80009	050	1840	EXT CLOCK INPUT		
80058	28480	050	1849	SYNC AND ASYNCHRONOUS GATING		

## DEFINITION OF DTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, PULSE

SPEC DTS ETE TYPE DESIGNATOR/  
NO MFR'S MDL NO MFR'S MDL NO FSCM CODE ID NO. PARAMETER

ACCURACY - POT -  
OR AS STATED

RF VOLTAGE OUTPUT 85600  
-----

04

050 9004 VARIABLE W/MAXIMUM OF 3V ACROSS 50 OHM LOAD

PG508	80009	050	8016	+/-5V ACROSS 50 OHM LOAD
P22	17421	050	8020	10V ACROSS 50 OHM LOAD
101A	00000	050	8019	3.3V P/P
110A	15933	050	8018	10MV TO 10V ACROSS 50 OHM LOAD
302A	26483	050	8017	1.5V ACROSS 50 OHM LOAD

AN/GPM-15	82076	050	0159	150V TO 1V	IN 3 RANGES
AN/GPM-15A	82076	050	0160	0 TO 200V	
AN/PPM-1	28480	050	0239	0 TO 50V	
AN/PPM-1A	28480	050	3596	50V AT 50 OHM LOAD	
AN/UPM-15	98179	050	0316	2MV TO 200V	
AN/UPM-15A	15196	050	0317	2MV TO 200V	
AN/USM-255	72314	050	0490	10V AT 50 OHMS, 17V AT 1000 OHMS	
AN/USM-359	80009	050	3617	0 TO 10V	
AN/USM-374	80009	050	0541	10V	
B7B	06692	050	3251	50V	
PG-32	24141	050	1914	20MV TO 20V	
SG-1105/U	28480	050	2067	200MV TO 5V	IN 5 RANGES
SG-343/UPM-15A	15196	050	0850	2MV TO 200V	
SG-366/U	80138	050	0851	0 TO 200MV	
SG-366A/U	80138	050	0852	0 TO 200MV	
SG-475/APS-94	06344	050	0855	0 TO 10V	
SG-69/PPM	28480	050	0818	0 TO 50V	
SG-69A/PPM-1	28480	050	0830	0 TO 50V	
SG-69B/PPM-1	28480	050	0831	-50 TO 50V	
TS-592/UPM-15	050	1058		20-200V	
TS-592A/UPM-15	88585	050	1059	20 TO 200V	
101	15933	050	1883	500MV TO 10V	
109	80009	054	1885	0-50V	
1217C	24655	050	1837	0 TO 40V	
1398	13488	050	1890	33MV TO 10V	
1920A	28480	050	1838	0 TO 5V	
214A	28480	050	3348	200MV TO 100V	IN 9 RANGES
216A	28480	050	1851	400MV TO 10V	IN 3 RANGES
222A	28480	050	1853	10V	
50708	90138	050	2576	0 TO 3V	
6254-5	13222	050	1848	10 TO 250V	



## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TIME CODE IO NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	---------------------	-----------	--------------------------------

00100

16		107	9016	GENERATOR, SIGNAL, UHF	
----	--	-----	------	------------------------	--

SLRD		23340	107	8030	SIGNAL GENERATOR
11058		82199	107	8028	SIGNAL GENERATOR
125		12678	107	8029	SIGNAL GENERATOR
6301		25778	107	8026	SIGNAL GENERATOR
8614		28480	107	8027	SIGNAL GENERATOR

AN/URM-64-1	76809	107	0363	GENERATOR SIGNAL
AN/URM-64-2	76809	107	0364	GENERATOR SIGNAL
AN/URM-64A-1	03877	107	0365	GENERATOR SIGNAL
AN/URM-64A-2	03877	107	0366	GENERATOR SIGNAL
AN/USM-213	28480	107	0477	GENERATOR SIGNAL
AN/USM-213A	28480	107	0478	GENERATOR SIGNAL
L7006	77327	107	3275	GENERATOR SIGNAL
SG-97/FPC	28480	107	0837	GENERATOR SIGNAL
TS-419/U		107	1012	GENERATOR SIGNAL
1205BF	82199	107	1713	MODULAR MICROWAVE SIGNAL SOURCE
1205F	82199	107	1827	SIGNAL GENERATOR MICROWAVE
18500B	99899	107	2581	GENERATOR SIGNAL
470A-1800	94668	107	1861	GENERATOR SIGNAL
86602A	28480	107	2090	RF SECTION

DIMENSIONS IN MM/INS 00110

16		107	9016	482MM(19IN)WX315MM(12IN)HX525MM(21IN)D
----	--	-----	------	--

11058	82199	107	8028	13CM(5IN)HX43CM(17IN)WX48CM(19IN)D
125	12678	107	8029	30CM(12IN)HX50CM(20IN)HX50CM(20IN)D
6301	25778	107	8026	43CM(17IN)WX25CM(10IN)HX53CM(21IN)D
8614	28480	107	8027	43CM(17IN)WX14CM(6IN)HX47CM(18IN)D
8614	28480	107	8027	43CM(17IN)WX14CM(6IN)HX47CM(18IN)D

AN/URM-64-1	76809	107	0363	35.56CM(14IN)WX32.39CM(12.75IN)HX45.72CM(18IN)D
AN/URM-64-2	76809	107	0364	35.56CM(14IN)WX32.39CM(12.75IN)HX45.72CM(18IN)D
AN/URM-64A-1	03877	107	0365	35.56CM(14IN)WX32.39CM(12.75IN)HX45.72CM(18IN)D
AN/URM-64A-2	03877	107	0366	35.56CM(14IN)WX32.39CM(12.75IN)HX45.72CM(18IN)D
AN/USM-213	28480	107	0477	42.55CM(16.75IN)WX13.97CM(5.5IN)HX46.67CM(18.38IN)D

H-40

## DEFINITION OF DTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC DTS ETE NO MFR'S MOL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM CODE	TIME IO NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	----------------	-----------	--------------------------------

DIMENSIONS IN MM/INS 00110

-----

AN/USM-213A	28480	107	0478	42.55CM(16.75IN)WX13.97CM(5.5IN)HX46.67CM(18.38IN)D	
SG-97/FRC	28480	107	0837	34.29CM(13.5IN)WX33.66CM(13.55IN)HX43.18CM(17IN)D	
TS-419/U		107	1012	34.29CM(13.5IN)WX43.82CM(17.25IN)HX34.61CM(13.63IN)D	
1205BF	82199	107	1713	42.55CM(16.75IN)WX13.34CM(5.25IN)HX48.26CM(19IN)D	
1205F	82199	107	1827	42.55CM(16.75IN)WX13.34CM(5.25IN)HX43.18CM(17IN)D	
18500B	99899	107	2581	50.80CM(20IN)WX50.80CM(20IN)HX24.13CM(9.5IN)D	
470A-1800	94668	107	1861	25.40CM(10IN)WX9.53CM(3.75IN)HX46.99CM(18.5IN)D	

WEIGHT IN KG/LBS 00120

-----

16		107	9016	27KG(60LBS)	
11058	82199	107	8028	20KG(43LBS)	
125	12678	107	8029	55KG(120LBS)	
6301	25778	107	8026	30KG(65LBS)	
8614	28480	107	8027	20KG(43LBS)	
AN/URM-64-1	76809	107	0363	24.52KG(54LBS)	
AN/URM-64-2	76809	107	0364	24.52KG(54LBS)	
AN/URM-64A-1	03877	107	0365	24.52KG(54LBS)	
AN/URM-64A-2	03877	107	0366	24.52KG(54LBS)	
AN/USM-213	28480	107	0477	19.98KG(44LBS)	
AN/USM-213A	28480	107	0478	17.25KG(38LBS)	
SG-97/FRC	28480	107	0837	26.79KG(59LBS)	
TS-419/U		107	1012	22.7KG(50LBS)	
1205BF	82199	107	1713	18.61KG(41LBS)	
1205F	82199	107	1827	18.61KG(41LBS)	
18500B	99899	107	2581	38.59KG(85LBS)	
470A-1800	94668	107	1861	16.34KG(36LBS)	
86602A	28480	107	2090	4.09KG(9LBS)	

H-41

## DEFINITIZATION OF DTS FTE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC DTS FTE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMDE CODE ID NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	---------------------	-----------	--------------------------------

ENCLOSURE (STYLE) C0130

15 107 9016 MIL-T-28800 STYLE E W/RACK MOUNT CAPABILITY

11058	82199	107	8028	RACK MOUNT CAPABILITY
6301	25778	107	8026	RACK MOUNT CAPABILITY
8614	28480	107	8027	RACK CAPABILITY

AN/USM-213	28430	107	0477	RACK MOUNT CAPABILITY
L7006	77327	107	3275	PLUG-IN UNIT
86602A	28480	107	2090	PLUG-IN USED W/HP-86608 MAIN FRAME

PWR SOURCE(S)/CONSUMPTION 80140

16 107 9016 TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/240W

11058	82199	107	8028	50-60HZ S-PHASE 115/230VAC/240W
125	12678	107	8029	50-60HZ S-PHASE 115/230VAC/400W
8614	28480	107	8027	50-60HZ S-PHASE 115-230VAC/125W

AN/URM-64-1	76809	107	0363	50-1000HZ S-PHASE 115VAC/150W
AN/URM-64-2	76809	107	0364	50-1000HZ S-PHASE 115VAC/150W
AN/URM-64A-1	03877	107	0365	50-1000HZ S-PHASE 115VAC/150W
AN/URM-64A-2	03877	107	0366	50-1000HZ S-PHASE 115VAC/150W
AN/USM-213	28480	107	0477	50-60HZ S-PHASE 115/230VAC/125W
AN/USM-213A	28480	107	0478	50-60HZ S-PHASE 115/230VAC/125W
L7006	77327	107	3275	PWR PROVIDED BY MAIN FRAME MODEL 816-510(PRO)
SG-97/FRC	28480	107	0837	50-400HZ S-PHASE 115/230VAC/160W
TS-419/U		107	1012	50-1600HZ S-PHASE 115VAC/150W
12058F	82199	107	1713	400HZ S-PHASE 110VAC/240W
1205F	82199	107	1827	50-400HZ S-PHASE 115/230VAC/195W
470A-1800	94668	107	1861	50-60HZ S-PHASE 115VAC

H-42

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC OTS ETE NO MFR'S MOL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	ESCH	FAC TMDE CODE ID NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
<u>MTBF SPECIFIED/PREDICTED</u> 00150					
16			107 9016	2000 HRS	
<u>PRIMARY CONNECTORS</u> 00170					
16			107 9016	BNC SERIES, RE N-SERIES	
<u>ENVIRONMENTAL CONDITIONS</u> 00200					
16			107 9016	MIL-T-28800 TYPE II CLASS 5 STYLE E COLOR 3	
<u>TEMP OPER/NON-OPERATING</u> 00210					
16			107 9016	0 TO 50C/-55 TO 75C	
<u>RELATIVE HUMIDITY</u> 00220					
16			107 9016	95(+5-0)	
<u>ALTITUDE OPER/NON-OPER</u> 00230					
16			107 9016	3050M(10000FT)/12000M(40000FT)	

H-43

## DEFINITIZATION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC QTS ETE TYPE DESIGNATOR/  
 NO MFR'S MOL NO MFR'S MODEL NO FSCM CODE IO NO. PARAMETER

ACCURACY -PCT-  
 OR AS STATED

## VIBRATION LIMIT (MAXIMUM) 00240

16

107 9016 26

## SHOCK, PULSE LEVEL 00250

16

107 9016 306

## AMPLITUDE MODULATION 01200

16

107 9016 20HZ TO 20KHZ PY SINE OR SQ WAVE EXT AM

125  
 8614

12678 107 8029 SQ-WAVE  
 28480 107 8027 DC TO 1MHZ

AN/USM-213  
 AN/USM-213A

28480 107 0477 0 TO 1MHZ  
 28480 107 0478 0 TO 1MHZ

## EXTERNAL AM SENSITIVITY 01230

16

107 9016 NGT 5V P/P SINE OR SQ-WAVE TO PRODUCE 90 PCT MOD

## AMP MOD-INT 01600

16

107 9016 SELECTIVE BETWEEN 400-1000HZ SINE &amp; SQ-WAVE

10+ PCT

SLRD  
 11058  
 125  
 6301  
 8614

23340 107 8030 1KHZ SQ WAVE  
 82199 107 8028 800HZ TO 1200HZ INTERNAL  
 12678 107 8029 1000HZ INTERNAL  
 25778 107 8026 50HZ TO 10KHZ SQ-WAVE  
 28480 107 8027 950 TO 1050 SQ-WAVE

AN/US4-213A

28480 107 0478 930 TO 1050HZ SQ-WAVE

H-44

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/79

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC OTS ETE NO MFR'S MOL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMDE IO NO.	PARAMETER
---------------------------------	------------------------------------	------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

AMP MOD-INT 01600

470A-1800 94668 107 1861 100HZ TO 100KHZ

AM INTERNAL DISTORTION 01640

16 107 9016 DISTORTION OF AM CARRIER NOT TO EXCEED 2 PCT

AM SPURIOUS MODULATION 01650

16 107 9016 AT ANY FREQ AND DEV SET AT 40KHZ SPURIOUS AM NGT 5 PCT

OUTPUT ATTENUATION 03600

16 107 9016 RANGE NLT 1000B W/100B VERNIER DIAL AT 10B STEPS +/-20B

AN/URM-64-1	76809	107	0363	0 TO -1200PM
AN/URM-64-2	76809	107	0364	0 TO -1200PM
AN/URM-64A-1	03877	107	0365	0 TO -1200PM
AN/URM-64A-2	03877	107	0366	0 TO -1200PM
AN/USM-213	28480	107	0477	0 TO -1270PM
SG-97/FRC	28480	107	0837	0 TO -1270PM
TS-419/U		107	1012	+10 TO -1460PM

FM INTERNAL DISTORTION 19600

16 107 9016 MOD SIGNAL DISTORTION ON ALL FREQ NGT 2 PCT

H-45

## DEFINITION OF OTS ETE SPECIFICATIONS

06/21/79

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC OTS ETE TYPE DESIGNATOR/ FAI TMOE  
 NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
 OR AS STATED

FM DEVIATION 26020  
 -----

16

107 9016 INT &amp; EXT 3 TO 300KHZ DEV CAPABILITY

RF MOD DUE TO VIBRATION 26440  
 -----

16

107 9016 WHEN VIBRATED-NGT 200HZ DEVIATION AT 900/1600/2200MHZ

OUTPUT FREQUENCY 26600  
 -----

16

107 9016 800MHZ TO 2.4GHZ W/NMT 5 BANDS

+/-2 PCT

SLRD	23340	107	8030	275MHZ TO 2.75GHZ
1105B	82199	107	8028	800-2400MHZ
125	12678	107	8029	200-3000MHZ
6301	25778	107	8026	800MHZ TO 2GHZ
8614	28480	107	8027	800 TO 2400MGH

AN/URM-64-1	76809	107	0363	900MHZ TO 2.1GHZ
AN/URM-64-2	76809	107	0364	900MHZ TO 2.1GHZ
AN/URM-64A-2	03877	107	0366	900MHZ TO 2.1GHZ
AN/USM-213	28480	107	0477	800MHZ TO 2.4GHZ
AN/USM-213A	28480	107	0478	800MHZ TO 2.4GHZ
L7006	77327	107	3275	1 TO 2GHZ
SG-97/FRC	28480	107	0837	800MHZ TO 2.1GHZ
TS-419/U		107	1012	900MHZ TO 2.1GHZ
1205RF	82199	107	1713	900MHZ TO 2.4GHZ
1205F	82199	107	1827	95MHZ TO 2.4GHZ
185003	99899	107	2581	920MHZ TO 1.25GHZ
4704-1800	94668	107	1861	1GHZ TO 1.8GHZ
86602A	28480	107	2090	1GHZ TO 1.299GHZ

IN 1 RANGE  
 IN 1 RANGE  
 IN 1 RANGE  
 IN 1 RANGE  
 IN 1 RANGE

+/-0.001PCT  
 +/-0.001PCT  
 +/-0.001PCT  
 +/-5 PCT  
 +/-5 PCT  
 +/-2 PCT

IN 1 RANGE  
 IN 1 RANGE

+/-1 PCT  
 +/-5 PCT  
 +/-1 PCT

+/-1 PCT

H-46



## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMDE ID NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	------	-------------	----------------	-----------	--------------------------------

OUTPUT FREQUENCY RESPONSE 26800						
---------------------------------	--	--	--	--	--	--

16			107	9016	FREQ OUTPUT LEVEL VARIATION NGT +/-10B ON ANY BAND	+/-10B
----	--	--	-----	------	--	--------

FREQ SHIFT 27000						
------------------	--	--	--	--	--	--

16			107	9016	CARRIER SHIFT W/MOD FREQ NGT	.005 PCT
----	--	--	-----	------	------------------------------	----------

RF DRIFT DUE TO TEMP 27220						
----------------------------	--	--	--	--	--	--

16			107	9016	FREQ DRIFT NGT .01 PCT AFTER 1 HR WARM UP	
----	--	--	-----	------	---	--

IMPEOANCE, INPUT 34400						
------------------------	--	--	--	--	--	--

16			107	9016	600 OHM AN INPUT	+/-5 PCT
----	--	--	-----	------	------------------	----------

6301		25778	107	8026	600 OHMS	
------	--	-------	-----	------	----------	--

OUTPUT IMPEDANCE 35200						
------------------------	--	--	--	--	--	--

16			107	9016	50 OHMS	
----	--	--	-----	------	---------	--

11058		82199	107	8028	50 OHMS	
125		12678	107	8029	50 OHMS	
6301		25778	107	8026	50 OHMS	

AN/URM-64-1	76809	107	0363	50 OHMS
AN/URM-64-2	76809	107	0364	50 OHMS
AN/USM-213A	28480	107	0478	50 OHMS
SG-97/FRC	28480	107	0837	50 OHMS
TS-419/U		107	1012	50 OHMS

H-47

## DEFINITIZATION OF DTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC DTS ETE NO	TYPE DESIGNATOR/ MERIS MODEL NO	FSCM	FAM CODE	TMOE ID NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
--------------------	------------------------------------	------	-------------	----------------	-----------	--------------------------------

MODULATION VOLTAGE		42600				
--------------------	--	-------	--	--	--	--

16			107	9016	DIFFERENCE BETWEEN 10KHZ & 1KHZ DEV SHOULD NOT VARY	+/-10 PCT
----	--	--	-----	------	---	-----------

PULSE MOD (PM)-EX		56000				
-------------------	--	-------	--	--	--	--

16			107	9016	EXTERNAL PULSE MODULATION CAPABILITY	
----	--	--	-----	------	--------------------------------------	--

SLFD 125		23340	107	8030	PULSE MOD	
		12678	107	8029	PULSE MOD	

	AN/USM-213	28480	107	0477	50HZ TO 500KHZ PPS	
	AN/USM-213A	28480	107	0478	PULSE MOD	

PULSE MOD (PM)-INT		56400				
--------------------	--	-------	--	--	--	--

16			107	9016	INTERNAL PULSE MODULATION OF 40-4000PPS	
----	--	--	-----	------	---	--

6301		25778	107	8026	PULSE MOD	
------	--	-------	-----	------	-----------	--

	AN/URM-64-1	76809	107	0363	40-4000PPS	
	AN/URM-64-2	76809	107	0364	40-4000PPS	
	AN/URM-64A-1	03877	107	0365	40-4000PPS	
	AN/URM-64A-2	03877	107	0366	40 TO 4000PPS	
	AN/USM-213	28480	107	0477	800 TO 1200HZ PULSE	
	SG-97/FRC	28480	107	0837	40 TO 4000PPS	
	TS-419/U		107	1012	40 TO 4000PPS	
	1R500B	99899	107	2581	PULSE MOD	

H-48

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMDE ID NO.	PARAMETER
---------------------------------	------------------------------------	------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

RF SPURIOUS OUTPUT	68000				
--------------------	-------	--	--	--	--

16

107 9016 3008 BELOW LEVEL OF UNMODULATED CARRIER

RF NOISE LEVEL	68400				
----------------	-------	--	--	--	--

16

107 9016 NGT 25HZ AT ANY FREQ

+/-10%

STANDING WAVE RATIO (SWR)	69600				
---------------------------	-------	--	--	--	--

16

107 9016 LT 2.0 TO 1

11058

82199 107 8028 2 TO 1

SG-97/FRC

28480 107 0837 1.4

RF VOLTAGE OUTPUT	85600				
-------------------	-------	--	--	--	--

16

107 9016 RF NLT .5V RMS ACROSS 50 OHM LOAD

SLRD  
11058  
125  
8614

23340	107	8030	0-41V
82199	107	8028	.22V
12678	107	8029	0-67V
28480	107	8027	.78V AT 50 OHM LOAD

AN/URM-64-1	76809	107	0363	2000W
AN/URM-64-2	76809	107	0364	.20V TO .16V
AN/URM-64A-1	03877	107	0365	.160V TO .20V
AN/URM-64A-2	03877	107	0366	2000V TO 160MV
AN/USM-213	28480	107	0477	1000V TO 700MV
AN/USM-213A	28480	107	0478	1000V TO 700MV
SG-97/FRC	28480	107	0837	1000V TO 158MV
TS-419/U		107	1012	40 TO 70V
1205F	82199	107	1827	50MV TO 126MV

## DEFINITION OF QTS STE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, UHF

SPEC QTS STE NO MFR'S MDL NO	TYPE DESIGNATOR / MFR'S MODEL NO	FAM CODE	TMDE ID NO.	PARAMETER
---------------------------------	-------------------------------------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

RF VOLTAGE OUTPUT 85600

470A-1800 94668 107 1861 70MV TO 35V

H-50

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, VHF

SREC OTS ETE TYPE DESIGNATOR/  
NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

00100

18

106 9018 GENERATOR, SIGNAL, VHF

TF2008  
1020  
6106  
86408/004

09553 106 8039 SIGNAL GENERATOR VHF B  
04901 106 8037 SIGNAL GENERATOR VHF B  
03782 106 8038 SIGNAL GENERATOR VHF-B  
28480 106 8036 SIGNAL GENERATOR VHF-B

AVIONIC

AN/ARM-26C 87793 106 0109 SIGNAL GENERATOR  
AN/PRM-10 13194 106 0240 TEST OSCILLATOR  
AN/URM-181 28430 106 0404 GENERATOR SIGNAL  
AN/URM-26 21900 106 0345 GENERATOR SIGNAL  
AN/URM-26A 106 0346 GENERATOR SIGNAL  
AN/URM-26B 106 0347 GENERATOR SIGNAL  
AN/USM-313 24655 106 0523 GENERATOR SIGNAL  
BC-376M 94486 106 2349 GENERATOR SIGNAL  
SG-1112(V)1/U 28480 106 2072 SIGNAL GENERATOR  
SG-13/APN 16636 106 0823 GENERATOR SIGNAL  
TS-497/URR 106 1031 GENERATOR SIGNAL  
TS-497A/URR 106 1032 GENERATOR SIGNAL  
TS-497B/URR 04423 106 1034 GENERATOR SIGNAL  
102A 04901 106 1630 GENERATOR SIGNAL  
211A 28480 106 1638 GENERATOR SIGNAL  
750-S138 33013 106 1872 GENERATOR SIGNAL  
8640A 28480 106 1591 GENERATOR SIGNAL  
8640B 28480 106 2071 GENERATOR SIGNAL  
8640B-001 28480 106 1593 GENERATOR SIGNAL

DIMENSIONS IN MM/INS 00110

18

106 9018 482.6MM(19IN)WX609.6MM(24IN)HX533.4MM(21IN)D

TF2008  
1020  
86408/004

09553 106 8039 48CM(19IN)WX29CM(11IN)HX32CM(13IN)D  
04901 106 8037 43CM(17IN)WX15CM(6IN)HX48CM(19IN)D  
28480 106 8036 43CM(17IN)WX14CM(6IN)HX47CM(18IN)D

AN/ARM-26C 87793 106 0109 36.20CM(14.25IN)WX29.21CM(11.5IN)HX27.31CM(10.75IN)D  
AN/PRM-10 13094 106 0240 29.94CM(11IN)W21.59CM(8.5IN)HX12.70CM(5IN)D  
AN/URM-181 28480 106 0404 20.43CM(8.04IN)WX26.04CM(10.25IN)HX46.67CM(18.38IN)D

H-51

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, VHF

SPEC OTS ETE TYPE DESIGNATOR/  
NO MFR'S MOL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

DIMENSIONS IN MM/INS 00110  
-----

AN/URM-26	21900	106	0345	36.20CM(14.25IN)WX29.21CM(11.5IN)HX27.31CM(10.75IN)D
AN/URM-26A		106	0346	36.20CM(14.25IN)WX29.21CM(11.5IN)HX27.31CM(10.75IN)D
AN/URM-26B		106	0347	36.83CM(14.5IN)WX26.67CM(10.5IN)HX27.31CM(10.75IN)D
AN/USM-313	24655	106	0523	19.05CM(7.50IN)WX30.48CM(12IN)HX20.32CM(8IN)D
BC-376M	94486	106	2349	22.86CM(9IN)WX19.69CM(7.75IN)HX33.02CM(13IN)D
SG-1112(V11/U	28480	106	2072	42.55CM(16.75IN)WX13.34CM(5.25IN)HX47.63CM(18.75IN)D
TS-497/URR		106	1031	29.21CM(11.5IN)WX27.94CM(11IN)HX50.80CM(20IN)D
TS-497A/URR		106	1032	29.21CM(11.5IN)WX27.94CM(11IN)HX50.80CM(20IN)D
TS-497B/URR	04423	106	1034	29.21CM(11.5IN)WX27.94CM(11IN)HX50.80CM(20IN)D
102A	04901	106	1630	43.82CM(17.25IN)WX13.34CM(5.25IN)HX46.36CM(18.25IN)D
211A	28480	106	1638	26.67CM(10.5IN)WX24.13CM(9.5IN)HX49.53CM(19.5IN)D
750-S138	33013	106	1872	42.55CM(16.75IN)WX17.78CM(7IN)HX46.48CM(18.3IN)D
8640A	28480	106	1591	47.63CM(18.75IN)WX14.05CM(5.53IN)HX42.55CM(16.55IN)D
8640B	28480	106	2071	47.63CM(18.75IN)WX14.05CM(5.53IN)HX42.55CM(16.75IN)D
8640B-001	28480	106	1593	42.55CM(16.75IN)WX13.34CM(5.25IN)HX47.63CM(18.75IN)D

WEIGHT IN KG/LBS 00120  
-----

18 106 9018 22.7KG(50LBS)

FE2008 09553 106 8039 21KG(46LBS)  
1020 04901 106 8037 18KG(40LBS)  
8640B/004 28480 106 8036 21KG(46LBS)

AN/ARM-26C	27793	106	0109	17.25KG(38LBS)
AN/ARM-10	13094	106	0240	5.45KG(12LBS)
AN/URM-181	28480	106	0404	20.43KG(45LBS)
AN/URM-26	21900	106	0345	17.25KG(38LBS)
AN/URM-26A		106	0346	17.25KG(38LBS)
AN/URM-26B		106	0347	17.25KG(38LBS)
AN/USM-313	24655	106	0523	5.22KG(11.5LBS)
BC-376M	94486	106	2349	9.65KG(21.25LBS)
SG-1112(V11/U	28480	106	2072	20.43KG(45LBS)
TS-497/URR		106	1031	25.88KG(57LBS)
TS-497A/URR		106	1032	25.88KG(57LBS)
TS-497B/URR	04423	106	1034	25.88KG(57LBS)
102A	04901	106	1630	13.62KG(30LBS)
211A	28480	106	1638	28.6KG(63LBS)
750-S138	33013	106	1872	12.76KG(27LBS)
8640A	28480	106	1591	20.43KG(45LBS)

H-52

## DEFINITIZATION OF DTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, VHF

SPEC DTS ETC TYPE DESIGNATOR/ FAM TMDE  
NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE IO NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

WEIGHT IN KG/LBS 00120

8640B	28480	106	2071	20.43KG(45LBS)
8640B-001	28480	106	1593	20.43KG(45LBS)

ENCLOSURE (STYLE) 00130

18 106 9018 MIL-T-28800B STYLE F W/RACKMOUNT CAPABILITY

1020	04901	106	8037	RACK MOUNT CAPABILITY
6105	03782	106	8038	MAIN FRAME W/PLUG IN MODULES

AN/URM-26	21900	106	0345	CABINET
BC-376M	94486	106	2349	PORTABLE
SG-1112(V)1/U	28480	106	2072	BENCH MOUNTED

PWR SOURCE(S)/CONSUMPTION 00140

18 106 9018 TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/125W

TE2308	09553	106	8039	45-500HZ S-PHASE 120/240VAC/22W
1020	04901	106	8037	50-400HZ S-PHASE 120/240VAC/30W
8640B/004	28480	106	8036	48-400HZ S-PHASE 120/240VAC/13W

AN/ARM-26C	87793	106	0109	50-1000HZ S-PHASE 115VAC
AN/PRM-10	13094	106	0240	50-1000 S-PHASE 115/125VAC/20W
AN/URM-121	28480	106	0404	50-400HZ S-PHASE 115/230VAC/100W
AN/URM-26	21900	106	0345	50-1000HZ S-PHASE 115VAC
AN/URM-26A		106	0346	50-1000HZ S-PHASE 115VAC
AN/URM-26B		106	0347	50-1000HZ S-PHASE 115VAC
BC-376M	94486	106	2349	1.5 R 90V BATTERIES BA-35 & BA-36
SG-1112(V)1/U	28480	106	2072	48-440HZ S-PHASE 120/240VAC/175W
SG-13/ARN	16636	106	0823	265VAC/135W
TS-497/URR		106	1031	50-60HZ S-PHASE 117VAC/65W
TS-497A/URR		106	1032	50-60HZ S-PHASE 117VAC/65W
TS-497B/URR	04423	106	1034	50-60HZ S-PHASE 117VAC/65W
1020	04901	106	1630	50-400HZ S-PHASE 115/230VAC/30W

H-53



## DEFINITIZATION OF QTS ETC SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, VHF

SPEC QTS ETC TYPE DESIGNATOR/  
 NO MFR'S MDL NO MFR'S MODEL NO ESCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
 OR AS STATED

## PWR SOURCE(S)/CONSUMPTION 00140

211A	2848D	106	1638	50-60HZ S-PHASE 105/125VAC/150W
750-S138	33013	106	1872	50-400HZ S-PHASE 115/230VAC/75W
8640A	2848D	106	1591	48-440HZ S-PHASE 110/230VAC/175W
8640B	2848J	106	2071	48-440HZ S-PHASE 110/230VAC/175W
8640B-GC1	2848J	106	1593	48-440HZ S-PHASE 100/240VAC/175W

## MTBF SPECIFIED/PREDICTED 00150

18 106 9018 2000 HRS

## PRIMARY CONNECTORS 00170

18 106 9018 BNC SERIES PE-N-SERIES

## ENVIRONMENTAL CONDITIONS 00200

18 106 9018 MIL-T-28800 TYPE II CLASS B STYLE E COLDR

## TEMP OPER/NON-OPERATING 00210

18 106 9018 0 TO 50C/-55 TO 75C

TF2008	09553	106	8039	10-35C
8640B/004	2848J	106	8036	0-55 DEGREES

H-54

## DEFINITION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, VHF

SPEC QTS ETE NO MFR'S MOD NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE TO NO.	TMOE TO NO.	PARAMETER	ACCURACY - PCT - OR AS STATED
RELATIVE HUMIDITY 00220						
18			106	9018	95(+5-0)	
ALTITUDE OPER/NON-OPER 00230						
18			106	9018	3050M(10000FT)/12000M(40000FT)	
VIBRATION LIMIT (MAXIMUM) 00240						
18			106	9018	2G	
SHOCK, PULSE LEVEL 00250						
18			106	9018	30G	
AMPLITUDE MODULATION 01200						
18			106	9018	20HZ TO 20KHZ BY INT OR EXTERNAL SINE OR SQ WAVE.	
TF200A 8640B/C04		09553 28430	106 106	8039 8036	20HZ TO 20KHZ EXT 20KHZ TO 600KHZ	
	AV/USM-313 TS-497/URR	24655	106 106	0523 1031	EXT MOD CAPABILITY 60HZ TO 100KHZ	

H-55

## DEFINITION OF DTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, VHF

SPEC DTS ETE TYPE DESIGNATOR/ FAM TMOE  
 NO MFR'S MDL NO MFR'S MODEL NO ESCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
 OR AS STATED

EXTERNAL AM SENSITIVITY 01230

18 106 9018 SINE OR SQ-WAVE LT 5V P/P TO PRODUCE MOD OF 95PCT

AMP MOD-INT 01600

18 106 9018 SELECTIVE BETWEEN 400-1000HZ

+/-5 PCT

TF2008	09553	106	8039	300HZ TO 3KHZ
1020	04901	106	8037	400-1000HZ
86408/004	28480	106	8036	400-1000HZ

AN/ARM-260	87793	106	0109	400 & 1000HZ
AN/URM-181	28480	106	0404	400-1000HZ
AN/URM-26	21900	106	0345	400 & 1000HZ
AN/URM-26A		106	0346	400-1000HZ
AN/URM-26B		106	0347	400-1000HZ
SG-13/ARN	16636	106	0823	90 & 150HZ
TS-497/URR		106	1031	400-1000HZ
102A	04901	106	1630	400 & 1000HZ

PERCENT MODULATION 01620

18 106 9018 0-95 PCT AM BY INT OR EXT SIGNAL SOURCES

AN/URM-181	28480	106	0404	0-50 PCT MOD INT
AN/URM-26A		106	0346	0-50 PCT MOD INT
AN/URM-26B		106	0347	0-50 PCT MOD INT
TS-497/URR		106	1031	0-30 PCT MOD INT

H-56

## DEFINITIZATION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, VHF

SPEC QTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	ESC4	FM TMDE CODE 10 NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	------	------------------------	-----------	--------------------------------

AM INTERNAL DISTORTION	01640				
------------------------	-------	--	--	--	--

18		106	9018	DISTORTION OF AM CARRIER NGT	2 PCT
----	--	-----	------	------------------------------	-------

OUTPUT ATTENUATION	03600				
--------------------	-------	--	--	--	--

18		106	9018	NLT 120DB W/10DB VERNIER IN 108 STEPS	+/-208
----	--	-----	------	---------------------------------------	--------

SG-1112(V)1/U	28480	106	2072	10DB STEP ATTENUATOR IN 1 DB STEPS	
---------------	-------	-----	------	------------------------------------	--

FM DEVIATION	26020				
--------------	-------	--	--	--	--

18		106	9018	INTERNAL AND EXTERNAL DEV CAPABILITY OF 0-40KHZ PMS	
----	--	-----	------	---	--

8640B/004	28480	106	8036	AM AND FM CR PULSE AND FM	
-----------	-------	-----	------	---------------------------	--

RF MOD DUE TO VIBRATION	26440				
-------------------------	-------	--	--	--	--

18		106	9018	AT ANY FREQ W/CEVIATION SET AT 40KHZ NGT	5 PCT
----	--	-----	------	--	-------

OUTPUT FREQUENCY	26600				
------------------	-------	--	--	--	--

18		106	9018	450KHZ TO 512MHZ	+/-5 PCT
----	--	-----	------	------------------	----------

TF2308	09553	106	8039	10KHZ TO 512MHZ W/11 RANGES	
1020	04901	106	8037	.45MHZ TO 520MHZ	
6106	03782	106	8038	61KHZ TO 512MHZ W/MODULE PLUG-IN 6202	
8640B/004	28480	106	8036	.45MHZ TO 512	

AN/ARM-26C	87793	106	0109	3MHZ TO 405MHZ	IN 6 RANGES +/-5 PCT
AN/PRM-10	13094	106	0240	2 TO 400MHZ	IN 7 RANGES +/-1.5 PCT

H-57

## DEFINITION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, VHF

SPEC QTS ETE TYPE DESIGNATOR/ FAM TMDE  
NO MFP'S MOL NO MFR'S MODEL NO FSCM CODE ID NO. PARAMETER

ACCURACY -PCT-  
OP AS STATED

OUTPUT FREQUENCY 26600  
-----

AN/URM-181	28480	106	0404	54 TO 216MHZ	IN 2 RANGES	
AN/URM-26	21900	106	0345	3 TO 405MHZ	IN 6 RANGES	+/-5 PCT
AN/URM-26A		106	0346	3 TO 405MHZ	IN 6 RANGES	+/-5 PCT
AN/URM-26B		106	0347	4 TO 405MHZ	IN 6 RANGES	+/-5 PCT
AN/USM-313	24655	106	0523	500KHZ TO 50MHZ	IN 1 RANGE	+/-2 PCT
BC-376M	94486	106	2349	75MHZ		
SG-1112(VII/U	28480	106	2072	500KHZ TO 512MHZ	IN 10 RANGES	+/-0.05 PCT
SG-13/APN	16636	106	0823	10R TO 335MHZ	IN 2 RANGES	.0065 PCT
TS-497/URR		106	1031	2 TO 400MHZ	IN 6 RANGES	
TS-497A/URR		106	1032	2 TO 400MHZ		
TS-497B/URR	04423	106	1034	2 TO 400MHZ	IN 6 RANGES	+/-0.5 PCT
102A	04901	106	1630	4.3 TO 520MHZ	IN 5 RANGES	
211A	28480	106	1638	88 TO 140MHZ		
750-S138	33013	106	1872	9.5 TO 520MHZ		
8640A	28480	106	1591	500KHZ TO 512MHZ	IN 10 RANGES	
8640B	28480	106	2071	500 TO 512MHZ		
8640B-001	28480	106	1593	500 TO 512MHZ	IN 10 RANGES	+/-0.5 PCT

OUTPUT FREQUENCY RESPONSE 26800  
-----

18 106 9018 OVER ANY BAND NGT +/-20B

CARRIER FREQUENCY SHIFT 27200  
-----

18 106 9018 CARRIER FREQUENCY SHIFT W/MOD FREQ NGT .005 PCT

1020 04901 106 8037 INTERNAL PHASE LOCK

IMPEDANCE, INPUT 34400  
-----

18 106 9018 600 OHMS +/-5 PCT

TF2008 09553 106 8039 600 OHMS  
1020 04901 106 8037 600 OHM

H-58

## DEFINITIZATION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, VHF

SPEC QTS ETE NO MFR'S MOD NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TIME ID NO.	PARAMETER
---------------------------------	------------------------------------	------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

IMPEDANCE, INPUT		34400			
------------------	--	-------	--	--	--

8640B/004		28480	106	8036	600 OHM
-----------	--	-------	-----	------	---------

SG-1112(V)1/U		28480	106	2072	2K OHMS
---------------	--	-------	-----	------	---------

OUTPUT IMPEDANCE		35200			
------------------	--	-------	--	--	--

18		106	9018	IMPEDANCE OUTPUT 50 OHMS	
----	--	-----	------	--------------------------	--

1020		04901	106	8037	OPTION 02
8640B/004		28480	106	8036	50 OHMS

AN/ARM-26C	87793	106	0109	50 OHMS
AN/URM-181	28480	106	0404	50 OHMS
AN/URM-26	21900	106	0345	50 OHMS
AN/URM-26A		106	0346	50 OHMS
AN/URM-26B		106	0347	50 OHMS
AN/USM-313	24655	106	0523	50 OHMS
TS-497/URP		106	1031	53.5 OHMS

MODULATION VOLTAGE		42600			
--------------------	--	-------	--	--	--

18		106	9018	DIFFERENCE BETWEEN 10KHZ & 1KHZ DEV SHALL NOT VARY	
----	--	-----	------	--	--

+/-10 PCT

PULSE MOD (PM)-EX		56000			
-------------------	--	-------	--	--	--

18		106	9018	EXTERNAL SIGNAL MOD CAPABILITY	
----	--	-----	------	--------------------------------	--

TF2008	09553	106	8039	30HZ TO 125KHZ	
1020	04901	106	8037	RF FROM OTHER SOURCE	

H-59

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - GENERATOR, SIGNAL, VHF

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMDE CODE	IO NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	--------------	--------	-----------	--------------------------------

PULSE MOD (PM)-INT 56400

18 106 9018 INTERNAL PM CAPABILITY AT 50 TO 5000PPS W/10-40USEC WIDT H

AN/ARM-26C	87793	106	0109	50-5000PPS
AN/URM-26	21900	106	0345	50-5000PPS
AN/URM-26A		106	0346	50-5000PPS
AN/URM-26B		106	0347	50-5000PPS 2-40USEC PULSE WIDTH
TS-497/URR		106	1031	60HZ TO 100KHZ PPS 1-40USEC PULSE WIDTH

RF SPURIOUS OUTPUT 68000

18 106 9018 HARMONIC CONTENT LEVEL 40DB BELOW UNMODULATED CARRIER

TF2008 09553 106 8039 -40 TO -30DB BELOW

AN/URM-181 28480 106 0404 300B BELOW DESIRED FREQ

RF NOISE LEVEL 68400

18 106 9018 RF NOISE LEVEL AT LEAST 350B BELOW CARRIER LEVEL

STANDING WAVE RATIO (SWR) 69600

18 106 9018 LT 1.2

TF2008	09553	106	8039	LT 1.2
1020	04901	106	8037	LT 1.5

H-60



# OFFINITIALIZATION OF DTS ETE SPECIFICATIONS

06/21/78

FAMILY VAMF - GENERATOR, SIGNAL, VHF

SPEC DTS ETE TYPE DESIGNATOR/ FAM TMDE ACCURACY -PCT-  
 NO MFR'S MDL NO MFR'S MODEL NO FSCM CODE TO NO. PARAMETER OR AS STATED

RF VOLTAGE OUTPUT 85600

18 106 9018 RF VOLTAGE VARIABLE 10V TO 1V ACROSS 50 OHM LOAD +/-1DB

TF2008 09553 106 8039 .20V-200MV ACROSS 50 OHM LOAD  
 1020 04901 106 8037 1V ACROSS 50 OHM LOAD  
 8640B/004 28480 106 8036 2V AT 50 OHM LOAD

AN/ARM-26C 87793 106 0109 .10V TO 100,000V  
 AN/URM-181 28480 106 0404 1000V TO 200MV  
 AN/URM-26 21900 106 0345 1000V TO 100MV  
 AN/URM-26B 106 0347 1000V TO 100MV  
 AN/USM-313 24655 106 0523 .32V  
 SG-1112(V)1/U 28480 106 2072 180V TO 1.3V  
 TS-497/URR 106 1031 1000V TO 100MV  
 TS-497A/URR 106 1032 1000V TO 100MV  
 211A 28480 106 1638 1000V TO 200MV VOR&ILS LOCALIZER RECEIVERS  
 8640A 28480 106 1591 130V TO 2V  
 8640R 28480 106 2071 130V TO 2V  
 8640B-001 28493 106 1593 130V TO 2V

+/-2 PCT

H-61

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - STROBOSCOPE

SPEC OTS ETE NO MFR'S MOL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMDE CODE IO NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	---------------------	-----------	--------------------------------

00100

95

065 9095 STROBOSCOPE

1531A	24655	065	8046	STROBOSCOPE	
165	05611	065	8048	STROBOSCOPE	
410	16902	065	8049	STROBOSCOPE/PHOTOTACOMETER	
932	15806	065	8047	STROBOSCOPE	

TS-805/U	24655	065	1108	STROBOSCOPE	
TS-805A/U	24655	065	1109	STROBOSCOPE	
TS-805B/U	83490	065	1110	STROBOSCOPE	
TS-805C/U	00708	065	1111	STROBOSCOPE	
TS-805D/U	83490	065	1112	STROBOSCOPE	
1531AB	24655	065	1717	TACHOMETER STROBOSCOPIC	
1538-A	24655	065	1718	STROBOSCOPE	

DIMENSIONS IN MM/INS 00110

95

065 9095 305MM(12IN)WX203MM(8IN)HX381MM(15IN)D

1531A	24655	065	8046	27CM(11IN)WX17CM(7IN)HX16CM(13IN)D	
932	15806	065	8047	15CM(6IN)WX23CM(9IN)HX20CM(8IN)D	

TS-805/U	24655	065	1108	16.51CM(6.5IN)WX23.50CM(9.25IN)HX24.77CM(9.75IN)D	
TS-805A/U	24655	065	1109	19.30CM(7.6IN)WX22.86CM(9IN)HX25.40CM(10IN)D	
1531AB	24655	065	1717	26.99CM(10.63IN)WX15.56CM(6.13IN)HX16.83CM(6.63IN)D	
1538-A	24655	065	1718	27CM(10.63IN)WX16.84CM(6.63IN)HX33.02CM(13IN)D	

WEIGHT IN KG/LBS 00120

95

065 9095 5.44KG(12LBS)

1531A	24655	065	8046	3.5KG(7.5LBS)	
165	05611	065	8048	4KG(8LBS)	

TS-805/U	24655	065	1108	4.31KG(9.5LBS)	
----------	-------	-----	------	----------------	--

H-62

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - STROBOSCOPE

SPEC OTS ETE NO MFR'S MOL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMOE ID NO.	PARAMETER
---------------------------------	------------------------------------	------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

WEIGHT IN KG/LBS 00120

15314d	24655	065	1717	3.29KG(7.55LBS)
1538-A	24655	065	1718	3.41KG(7.5LBS)

PWR SOURCE(S)/CONSUMPTION 00140

95	065	9095	TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/30W	
1531A	24655	065	8046	50-400HZ S-PHASE 115/230VAC/25W BATTERY OPTIONAL
165	05611	065	8048	60HZ, S-PHASE 130VAC
932	15806	065	8047	50,60HZ S-PHASE 115/230VAC
TS-805/U	24655	065	1108	60HZ S-PHASE 105/125VAC/35W
TS-805A/U	24655	065	1109	60HZ S-PHASE 105/125VAC
TS-805C/U	00708	065	1111	60HZ S-PHASE 115VAC
TS-8050/U	83490	065	1112	60HZ S-PHASE 115VAC

MTBF SPECIFIED/PREDICTED 00150

95	065	9095	NLT 2000 HRS
----	-----	------	--------------

PRIMARY CONNECTORS 00170

95	065	9095	TIP-RING SLEEVE AUDIO PLUG	
1531A	24655	065	8046	PHONE JACKS FOR EXT TRIGGERING

H-63

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - STROBOSCOPE

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM TMDE CODE ID NO.	PARAMETER
---------------------------------	------------------------------------	------	-------------------------	-----------

ACCURACY -PCT- OR AS STATED
--------------------------------

ENVIRONMENTAL CONDITIONS	00200
--------------------------	-------

95

065 9095 MIL-T-28800 TYPE II CLASS 5 STYLE E COLOR R

TEMP OPER/NON-OPERATING	00210
-------------------------	-------

95

065 9095 0 TO 50C/-55 TO 75C

RELATIVE HUMIDITY	00220
-------------------	-------

95

065 9095 95(+5-0)

ALTITUDE OPER/NON-OPER	00230
------------------------	-------

95

065 9095 3050M(10000FT)/1200M(40000FT)

VIBRATION LIMIT (MAXIMUM)	00240
---------------------------	-------

95

065 9095 2G

SHOCK, PULSE LEVEL	00250
--------------------	-------

95

065 9095 30G

H-64

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - STROBOSCOPE

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMOF ID NO.	PARAMETER
---------------------------------	------------------------------------	------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

## FLASH CHARACTERISTICS 24400

95		065	9095	60 TO 150,000 FLASHES PER MINUTE IN 4 RANGES	+/-1 PCT
1531A	24655	065	8046	110 TO 25,000 FLASHES PER MINUTE	
165	05611	065	8048	115 TO 25,000 FLASHES PER MINUTE	
410	16902	065	8049	0 TO 50,000 FLASHES PER MINUTE IN 4 RANGES	
932	15806	065	8047	0 TO 30,000 FLASHES PER MINUTE	
	TS-R05/U	24655	065	1108	600 TO 14,400 FLASHES PER MIN IN 2 RANGES +/-1 PCT
	TS-R05A/U	24655	065	1109	60 TO 14400 FLASHES PER MINUTE IN 2 RANGES +/-1 PCT
	TS-R05B/U	83490	065	1110	60 TO 15,000 FLASHES PER MINUTE IN 2 RANGES +/-1 PCT
	TS-R05C/U	00708	065	1111	60 TO 14,400 FLASHES PER MINUTE IN 2 RANGES +/-1 PCT
	TS-R05D/U	83490	065	1112	600 TO 15,000 FLASHES PER MINUTE IN 2 RANGES +/-1 PCT
	1531A8	24655	065	1717	110 TO 25,000 FLASHES PER MINUTE IN 3 RANGES
	1538-A	24655	065	1718	110 TO 150,000 FLASHES PER MINUTE IN 4 RANGES +/-1 PCT

## LIGHT INTENSITY 39600

95		065	9095	.5X10 CANDELAS
1531A	24655	065	8046	06 TO +0 CANDELA

## SYNCHRONIZATION, INPUT 74000

95		065	9095	EXTERNAL SOURCE SYNC CAPABILITY
1531A	24655	065	8046	EXT TRIGGER +60 PULSE OR 2VOLT SINE WAVE
165	05611	065	8048	EXT TRIGGER AND SYNC SIGNALING
932	15806	065	8047	EXT TRIGGERING
1531A8	24655	065	1717	EXTERNAL TRIGGER INPUT CAPABILITY
1538-A	24655	065	1718	INPUT TRIGGERING CAPABILITY

H-65

## DEFINITION OF OTS ETE SPECIFICATIONS

06/21/78

## FAMILY NAME - VOLTMETER DIFFERENTIAL

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMOF ID NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	------	-------------	----------------	-----------	--------------------------------

00100

38

021 9038 VOLTMETER DIFFERENTIAL

1002		25778	121	8043	VOLTMETER DIFFERENTIAL	
1412		25778	121	8044	VOLTMETER DIFFERENTIAL	
7408		28480	121	8041	VOLTMETER DIFFERENTIAL	
887A8		89536	121	8042	VOLTMETER DIFFERENTIAL	

ME-202/U	89536	121	0682	VOLTMETER ELECTRONIC
MF-2028/U	89536	121	0683	VOLTMETER ELECTRONIC
TS-2843/U	89536	121	1210	VOLTMETER
335A	89536	121	3456	CALIBRATOR VOLTMETER
7408	28480	121	1965	DC STANDARD DIFFERENTIAL VOLTMETER
7418	28480	121	1966	DIFFERENTIAL VOLTMETER
803	89536	121	2559	VOLTMETER ELECTRONIC PRECISION DIFFERENTIAL
803BR	89536	121	1967	VOLTMETER DIFFERENTIAL
803DAG	89536	121	1969	VOLTMETER ELECTRONIC
887-ABAN	89536	121	2550	VOLTMETER DIFFERENTIAL
887A	89536	121	1971	VOLTMETER DIFFERENTIAL
891A	89536	121	1972	VOLTMETER DC DIFFERENTIAL
893A	89536	121	1973	VOLTMETER DIFFERENTIAL

DIMENSIONS IN MM/INS 00110

38

021 9038 260MM(10IN)WX235MM(9IN)HX405MM(15.5IN)D

1002	25778	121	8043	30CM(12IN)WX28CM(11IN)HX45CM(18IN)D
1412	25778	121	8044	23CM(9IN)WX18CM(7IN)HX25CM(10IN)D
7408	28480	121	8041	42.5CM(6.75IN)WX17.5CM(6.88IN)HX46.4CM(18.25IN)D
887A8	89536	121	8042	23CM(9IN)WX18CM(7IN)HX38CM(15IN)D

ME-202/U	89536	121	0682	24.77CM(9.75IN)WX40.64CM(16IN)HX33.02CM(13IN)D
ME-2028/U	89536	121	0683	24.77CM(9.75IN)WX40.64CM(16IN)HX33.02CM(13IN)D
TS-2843/U	89536	121	1210	21.59CM(8.5IN)WX17.78CM(7IN)HX37.47CM(14.75IN)D
335A	89536	121	3456	48.26CM(19IN)WX46.99CM(18.5IN)HX17.78CM(7IN)D
7408	28480	121	1965	42.55CM(16.75IN)WX17.46CM(6.88IN)HX46.36CM(18.25IN)D
7418	28480	121	1966	42.55CM(16.75IN)WX17.78CM(7IN)HX46.36CM(18.25IN)D
803	89536	121	2559	24.38CM(9.75IN)WX40.64CM(16IN)HX33.02CM(13IN)D
803BR	89536	121	1967	48.26CM(19IN)WX17.78CM(7IN)HX39.37CM(15.50IN)D

H-66

## DEFINITION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - VOLTMETER DIFFERENTIAL

SPEC OTS ETE TYPE DESIGNATOR/  
NO MFR'S MFL NO MFR'S MODEL NO FSCM CODE IO NO. PARAMETER

ACCURACY -PCT-  
OR AS STATED

DIMENSIONS IN MM/INS 00110

803DAG	89536	121	1969	34.14CM(13.44IN)WX24.33CM(9.62IN)HX43.82CM(17.25IN)D
887-ABAN	89536	121	2560	21.59CM(8.5IN)WX38.10CM(15IN)HX17.78CM(7IN)D
887A	89536	121	1971	21.59CM(8.5IN)WX37.47CM(14.75IN)HX17.78CM(7IN)D
891A	89536	121	1972	24.77CM(9.75IN)WX17.78CM(7IN)HX33.98CM(13.38IN)D
893A	89536	121	1973	21.59CM(8.5IN)WX17.78CM(7IN)HX26.04CM(10.25IN)D

WEIGHT IN KG/LBS 00120

38 021 9038 9.07KG(20LBS)MAX

1002	25778	121	8043	13KG(29LBS)
1412	25778	121	8044	5KG(12LBS)
7408	28480	121	8041	13KG(29LBS)
887A8	89536	121	8042	6KG(14LBS)

ME-202/U	89536	121	0682	13.62KG(30LBS)
ME-202H/U	89536	121	0633	17.25KG(38LBS)
TS-2843/U	89536	121	1210	6.36KG(14LBS)
3354	89536	121	3456	27.24KG(60LBS)
7408	28480	121	1965	21.47KG(47.3LBS)
7418	28480	121	1966	20.88KG(46LBS)
803	89536	121	2559	11.35KG(25LBS)
8038R	89536	121	1967	11.35KG(25LBS)
803DAG	89536	121	1969	9.99KG(22LBS)
887-ABAN	89536	121	2560	6.81KG(15LBS)
887A	89536	121	1971	5.90KG(13LBS)
891A	89536	121	1972	5.45KG(12LBS)
893A	89536	121	1973	5.45KG(12LBS)

ENCLOSURE (STYLE) 00130

38 021 9038 MIL-T-28000 STYLE E W/RACK MOUNT CAPABILITY

887A8 89536 121 8042 RACK MOUNT CAPABILITY



## DEFINITIZATION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - VOLTMETER DIFFERENTIAL

SPEC QTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM CODE	TMDE IO NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	----------------	-----------	--------------------------------

PWR SOURCE(S)/CONSUMPTION 00140

38		021	9038	TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/12W	W
1002		25778	121	8043	50,60,400 S-PHASE 115/230VAC/12
1412		25778	121	8044	50-500HZ S-PHASE 115/230VAC
7404		28480	121	8041	50,60,400HZ S-PHASE 115/230VAC/12W
887AB		89536	121	8042	50-400HZ 115/230VAC/4W W/BATTERY CAPABILITY
	ME-202/U	89536	121	0682	50-60HZ S-PHASE 117/234VAC/175W
	ME-2028/U	89536	121	0693	50-60HZ S-PHASE 117/234VAC/175W
	TS-2843/U	89536	121	1210	50-440HZ S-PHASE 115/230VAC/6W W/BATTERY CAPABILITY
	335A	89536	121	3456	50-60HZ S-PHASE 115/230VAC
	740B	28480	121	1965	50-400HZ S-PHASE 115/230VAC/125W
	741B	28480	121	1966	50-1000HZ S-PHASE 115/230VAC/125W
	803	89536	121	2559	50-440HZ S-PHASE 115/230VAC/85W
	803BR	89536	121	1967	400HZ S-PHASE 120VAC/75W
	803DAG	89536	121	1969	50-400HZ S-PHASE 115/230VAC/85W
	887-ABAN	89536	121	2560	50-400HZ S-PHASE 115/230VAC/5W
	887A	89536	121	1971	50-400HZ S-PHASE 115/230VAC/7W
	891A	89536	121	1972	50-500HZ S-PHASE 115/230VAC/4W
	893A	89536	121	1973	50-500HZ S-PHASE 115/230VAC/4W W/BATTERY CAPABILITY

MTBF SPECIFIED/PREDICTED 00150

38		021	9038	7500 HRS
----	--	-----	------	----------

PRIMARY CONNECTORS 00170

38		021	9038	DUAL FEMALE BANANA PLUG
----	--	-----	------	-------------------------

893A	89536	121	1973	BINDING POSTS
------	-------	-----	------	---------------

H-68

## DEFINITIZATION OF QTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - VOLTMETER DIFFERENTIAL

SPEC QTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM CODE	TMDE IO NO.	PARAMETER
---------------------------------	------------------------------------	-------------	----------------	-----------

ACCURACY -PCT-  
OR AS STATED

ENVIRONMENTAL CONDITIONS 00200

38

021 9038 MIL-T-28800 TYPE II CLASS 5 STYLE E COLOR 2

TEMP OPER/NON-OPERATING 00210

38

021 9038 0 TO 50C/-55 TO 75C

1412  
887AB

25778	121	8044	-40 TO +70C
89536	121	8042	0-50C

RELATIVE HUMIDITY 00220

38

021 9038 95(+5-0)

ALTITUDE OPER/NON-OPER 00230

38

021 9038 3050M(10000FT)/12000M(40000FT)

VIBRATION LIMIT (MAXIMUM) 00240

38

021 9038 2G

SHOCK, PULSE LEVEL 00250

38

021 9038 30G

69-H

## DEFINITIZATION OF DTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - VOLTMETER DIFFERENTIAL

SPEC DTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FSCM	FAM CODE	TMOF IO NC.	PARAMETER
---------------------------------	------------------------------------	------	-------------	----------------	-----------

ACCURACY -PCT- OR AS STATED
--------------------------------

OUTPUT FREQUENCY	26650
------------------	-------

38	021	9038	20HZ TO 5KHZ +/-2PCT, TOTAL RANGE 5HZ TO 100KHZ +/-5PCT
----	-----	------	---

1412	25778	121	8044	5HZ TO 100KHZ
887A8	89536	121	8042	20HZ TO 5KHZ

ME-202/U	89536	121	0682	5HZ TO 10KHZ
ME-202B/U	89536	121	0693	5HZ TO 10KHZ
TS-2843/U	89536	121	1210	20HZ TO 5KHZ
741R	28480	121	1966	20HZ TO 100KHZ
803BR	89536	121	1967	5HZ TO 10KHZ
803DAG	89536	121	1969	0 TO 100KHZ

IMPEDANCE, INPUT	34400
------------------	-------

38	021	9038	NLT 10MEG OHM-DC AND 1MEG OHM AC
----	-----	------	----------------------------------

1002	25778	121	8043	100 MEG OHMS
1412	25778	121	8044	100 MEG OHM-DC, 1MEG OHM-AC
740B	28480	121	8041	0-100MEG OHM INPUT
887A8	89536	121	8042	10MEG OHMS DC 1MEG OHM AC

ME-202B/U	89536	121	0683	1MEG OHM AT AC, INFINITE AT NULL DC
TS-2843/U	89536	121	1210	INFINITE AT NULL

NULL MODE	46800
-----------	-------

38	021	9038	VOLTAGE VARIATION MEASUREMENT TO 100UVDC & 1MV AC
----	-----	------	---

1002	25778	121	8043	100UV
1412	25778	121	8044	.001-TO 100V AC/DC
740B	28480	121	8041	100UV TO 100MV IN 4 RANGES
887A8	89536	121	8042	100UV THROUGH 100V IN 7 RANGES

ME-202/U	89536	121	0682	.01 TO 10V
----------	-------	-----	------	------------

H-70

## DEFINITIZATION OF DTS ETE SPECIFICATIONS

06/21/78

## FAMILY NAME - VOLTMETER DIFFERENTIAL

SPEC DTS ETE NO MFR'S MOD ID	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM FSCM	TMDE CODE ID NO.	PARAMETER	ACCURACY -PCT- OR AS STATED
---------------------------------	------------------------------------	-------------	---------------------	-----------	--------------------------------

NULL MODE	46800				
-----------	-------	--	--	--	--

VOLTAGE, AC	84000				
-------------	-------	--	--	--	--

38		021	9038	0 TO 1000VAC	IN NMT 8 RANGES	+/- .02 PCT
----	--	-----	------	--------------	-----------------	-------------

88748		89536	121	8042	0 TO 1000VAC	
-------	--	-------	-----	------	--------------	--

ME-202/U	89536	121	0682	0 TO 500VAC	IN 8 RANGES	+/- .2 PCT
MF-202B/U	89536	121	0683	0 TO 500VAC	IN 8 RANGES	+/- .2 PCT
TS-2843/U	89536	121	1210	0 TO 1000VAC	IN 7 RANGES	+/- .3 PCT
741B	28480	121	1966	0 TO 1000VAC	IN 4 RANGES	+/- .1 PCT
803BR	89536	121	1967	0 TO 500VAC	IN 8 RANGES	+/- .2 PCT
803DAG	89536	121	1969	0 TO 500VAC	IN 4 RANGES	+/- .02 PCT
887-ABAN	89536	121	2560	0 TO 1000VAC		
887A	89536	121	1971	0 TO 1100VAC	IN 4 RANGES	+/- .75 PCT
893A	89536	121	1973	0 TO 1100VAC	IN 7 RANGES	

VOLTAGE, DC	84400				
-------------	-------	--	--	--	--

38		021	9038	-1000 TO 1000VDC	IN NMT 8 RANGES	+/- .02 PCT
----	--	-----	------	------------------	-----------------	-------------

1002	25778	121	8043	+/-0-1100VDC	AND 15000VDC W/DIVIDER	
1412	25778	121	8044	+/-0 TO 1000VDC		
7403	28480	121	8041	1-1000VDC W/DIVIDER-15000VDC		

ME-202/U	89536	121	0682	0 TO 500VDC		+/- .05 PCT
MF-202B/U	89536	121	0683	0 TO 500VDC	IN 8 RANGES	+/- .05 PCT
TS-2843/U	89536	121	1210	0 TO 1000VDC	IN 7 RANGES	+/- .3 PCT
335A	89536	121	3456	-1000V TO 10KVDC		+/- .3 PCT
740B	28480	121	1965	0 TO 1000VDC	IN 4 RANGES	+/- .2 PCT
741B	28480	121	1966	0 TO 1000VDC	IN 4 RANGES	+/- .001 PCT
803	89536	121	2559	0 TO 500VDC		+/- .72 PCT
803BR	89536	121	1967	0 TO 500VDC	IN 8 RANGES	+/- .05 PCT
803DAG	89536	121	1969	0 TO 500VDC	IN 4 RANGES	+/- .1 PCT
887-ABAN	89536	121	2560	0 TO 1000VDC		
887A	89536	121	1971	0 TO 1100VDC	IN 4 RANGES	
891A	89536	121	1972	0 TO 1100VDC		+/- .3 PCT

H-71

## DEFINITIZATION OF OTS ETE SPECIFICATIONS

06/21/78

FAMILY NAME - VOLTMETER DIFFERENTIAL

SPEC OTS ETE NO MFR'S MDL NO	TYPE DESIGNATOR/ MFR'S MODEL NO	FAM PSCM	TMDE CODE ID NO.	PARAMETER
---------------------------------	------------------------------------	-------------	---------------------	-----------

ACCURACY -PCT-  
OR AS STATEDVOLTAGE, DC 84400  
-----

893A

89536 121 1973 0 TO 110DVDC

IN 7 RANGES

## APPENDIX I

### PARAMETER DATA FOR MILITARY (OTS ETE) SPECIFICATIONS

#### 1. INTRODUCTION

This appendix presents technical data for the Military (OTS ETE) Specifications contained in Appendixes A through G. It is structured to permit CERCOM to review the technical parameters included in each specification.

#### 2. ABBREVIATIONS

The following nonelectronic abbreviations are used throughout the computer listings:

EXT	- External
GT	- Greater Than
NGT	- Not Greater Than
INT	- Internal
LT	- Less Than
NLT	- Not Less Than
PCT	- Percent
W/	- With

## MILITARY OTS ETE SPECIFICATION PARAMETERS

06/22/78

OTS ETE SPECIFICATION NAME	SPEC NO	TASK NO	GROUP LTR	FAMILY CODE	TMOE ID NO
BRIDGE UNIVERSAL	25	2	R	008	9025

PARAMETER NAME	PARAMETER CODE	PARAMETER	ACCURACY (PCT) OR AS STATED
DIMENSIONS IN MM/INS	00100	BRIDGE, UNIVERSAL	
WEIGHT IN KG/LBS	00110	482.6MM(19 IN)WX317.5MM(12.50IN)HX292.1MM(11.50IN)	
ENCLOSURE (STYLE)	00120	17KG/37LBS	
PWR SOURCE(S)/CONSUMPTION	00130	MIL-T-28000 STYLE E W/RACKMOUNT CAPABILITY	
MTRF SPECIFIED/PREDICTED	00140	TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/15W	
PRIMARY OUTPUT CONNECTOR	00150	3500 HRS	
ENVIRONMENTAL CONDITIONS	00180	DUAL FEMALE BANANA JACK	
TEMP OPER/NON-OPERATING	00200	MIL-T-28800 TYPE II CLASS 5 STYLE E COLOR R	
RELATIVE HUMIDITY	00210	0 TO 50 C / -55 TO 75 C	
ALTITUDE OPER/NON-OPER	00220	95	
VIBRATION LIMIT (MAXIMUM)	00230	3050M(10000FT)/12000M(40000FT)	
SHOCK, PULSE LEVEL	00240	2G	
CAPACITANCE RANGE	00250	30G	
DC TEST VOLTAGE	08400	1 PF TO 1200 UF IN NMT 8 RANGES	+/-0.2 PCT
DISSIPATION FACTOR	16000	DC TEST VOLTAGE 0-500 VDC	
INTERNAL SIGNAL SOURCE	18400	RANGE 0.001 TO 1.0	+/-5 PCT
EXTERNAL SIGNAL SOURCE	25410	SIGNAL SOURCE 1KHZ	+/-3 PCT
INDUCTANCE	25420	SIGNAL SOURCE VARIABLE FROM 50HZ TO 20KHZ	
RESISTANCE MEASUREMENT	36800	1 OH TO 1100 HENRYS IN NMT 8 RANGES	+/-0.1 PCT
STORAGE FACTOR (Q)	59600	10 OHMS TO 50 MEGOHMS IN NMT 8 RANGES	+/-0.1 PCT
	69700	RANGE 0.05 TO 1000	+/-5 PCT



## MILITARY OTS ETE SPECIFICATION PARAMETERS

06/22/78

OTS ETE SPECIFICATION NAME	SPEC NO	TASK NO	GROUP LTR	FAMILY CODE	TMDE ID NO
GENERATOR, SIGNAL, FUNCTION	02	2	A	047	9002

PARAMETER NAME	PARAMETER CODE	PARAMETER	ACCURACY (PCT) OR AS STATED
DIMENSIONS IN MM/INS	00100	GENERATOR, SIGNAL, FUNCTION	
WEIGHT IN KG/LBS	00110	482.6MM(19IN)WX152.4MM(6IN)HX381.0MM(15IN)H	
ENCLOSURE (STYLE)	00120	9KG(20LBS)	
PWR SOURCE(S)/CONSUMPTION	00130	MIL-T-28800 STYLE E W/RACK MOUNT CAPABILITY	
MTBF SPECIFIED/PREDICTED	00140	TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/50W	
PRIMARY CONNECTORS	00150	2500 HRS	
ENVIRONMENTAL CONDITIONS	00170	BNC	
TEMP OPER/NON-OPERATING	00200	MIL-T-28800 TYPE II CLASS 5 STYLE E COLDR	
RELATIVE HUMIDITY	00210	0 TO 50C/-55 TO 75C	
ALTITUDE OPER/NON-OPER	00220	95(+5-0)	
VIBRATION LIMIT (MAXIMUM)	00230	3050M(10000FT)/12000M(40000FT)	
SHOCK, PULSE LEVEL	00240	2G	
OUTPUT ATTENUATION	00250	30G	
DC OFFSET	03600	NLT 50DB W/10DB VERNIER CALIBRATED IN 10A STEPS	
DISTORTION	15600	ADJUSTABLE FROM -10VDC TO +10VDC	
FREQUENCY OUTPUT RANGE	19200	DISTORTION NGT .5 PCT	
OUTPUT FREQUENCY RESPONSE	25400	.1HZ TO 10MHZ IN NMT 10 RANGES	+/-5 PCT
HARMONICS	26800	VARIATION OF OUT PUT LEVEL BETWEEN BANDS NGT	+/-10B
OUTPUT IMPEDANCE	29000	SINE WAVE NLT 30DB BELOW FUNDAMENTAL FREQ	
LINEARITY	35200	50 OHMS IMPEDANCE OUTPUT	
OUTPUT SIGNALS	39500	SAWTOOTH & TRIANGLE WAVE LINEARITY ERROR AT 100HZ	LT 1 PCT
PULSE WIDTH	50000	SELECT WAVEFORMS SINE, SQUARE, PULSE, TRIANGLE & SAWTOOTH	
PULSE MOD, TRANS TIME	56010	NLT .1US TO 5SEC CONTINUOUSLY VARIABLE	
SYNCHRONIZATION, OUTPUT	56430	THE RISE & FALL TIME OF SQ-WAVE & PULSE LT 2INSEC EACH	
RF VOLTAGE OUTPUT	74800	SYNC OUTPUT TO 1V P/P SQ-WAVE W/500HM IMPED +/-100HMS	
	85600	10V P/P AT 50 OHM LOAD	+/-10B

## MILITARY OTS ETE SPECIFICATION PARAMETERS

06/22/78

OTS ETE SPECIFICATION NAME	SPEC NO	TASK NO	GROUP LTR	FAMILY CODE	TMOE IO NO
GENERATOR, SIGNAL, PULSE	04	2	A	050	9004

PARAMETER NAME	PARAMETER CODE	PARAMETER	ACCURACY (PCT) OR AS STATED
	00100	GENERATOR, SIGNAL, PULSE	
DIMENSIONS IN MM/INS	00110	440MM(17IN)WX180MM(6.5IN)HX360MM(13.5IN)D	
WEIGHT IN KG/LBS	00120	10KG(22.1 LBS)	
ENCLOSURE (STYLE)	00130	MIL-T-28800 STYLE F W/PACK MOUNT CAPABILITY	
PWR SOURCE(S)/CONSUMPTION	00140	TYPE II 50,60,400HZ SINGLE PHASE 115/230 VAC/75W	
MTBE SPECIFIED/PREDICTED	00150	2000 HRS	
PRIMARY CONNECTORS	00170	SEPIES-BNC	
ENVIRONMENTAL CONDITIONS	00200	MIL-T-28800 TYPE II CLASS 5 STYLE F COLOR R	
TEMP OPER/NON-OPERATING	00210	0 TO 50C/-55 TO 75C	
RELATIVE HUMIDITY	00220	95(+5-7)	
ALTITUDE OPER/NON-OPER	00230	3050M(10000FT)/12000M(40000FT)	
VIBRATION LIMIT (MAXIMUM)	00240	2G	
SHOCK, PULSE LEVEL	00250	30G	
OUTPUT ATTENUATION	03600	0-900B IN 100B STEPS W/100B VERNIER IN 10B STEPS	
OUTPUT IMPEDANCE	35200	50 OHMS	
OUTPUT SIGNALS	50000	PULSE OUTPUT W/VARIABLE PULSE WIDTH	
PULSE WIDTH	56010	VARIABLE FROM 10 NANOSECOND TO 1 SECOND	+/- .002 PCT
PULSE MOD, TRANS TIME	56430	LT 5 NANOSECONDS	
PULSE RATE	56600	10 TO 50MHZ	.005 PCT
SYNCHRONIZATION, MODE OE	74400	INTERNAL & EXTERNAL SYNC PULSE MODE CAPABILITY	
RF VOLTAGE OUTPUT	85600	VARIABLE W/MAXIMUM OF 3V ACROSS 50 OHM LOAD	

## MILITARY OTS ETE SPECIFICATION PARAMETERS

06/22/78

OTS ETE SPECIFICATION NAME	SPEC NO	TASK NO	GROUP LTR	FAMILY CODE	THOE ID NO
GENERATOR, SIGNAL, UHF	16	2	A	107	9016

PARAMETER NAME	PARAMETER CODE	PARAMETER	ACCURACY (PCT) OR AS STATED
DIMENSIONS IN MM/INS	00100	GENERATOR, SIGNAL, UHF	
WEIGHT IN KG/LBS	00110	482MM(19IN)WX315MM(12IN)HX525MM(21IN)D	
ENCLOSURE (STYLE)	00120	27KG(60LBS)	
PWR SOURCE(S)/CONSUMPTION	00130	MIL-T-28800 STYLE F W/PACK MOUNT CAPABILITY	
MTBF SPECIFIED/PREDICTED	00140	TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/240W	
PRIMARY CONNECTORS	00150	2000 HRS	
ENVIRONMENTAL CONDITIONS	00170	BNC SERIES, RF N-SEPIES	
TEMP OPER/NDN-OPERATING	00200	MIL-T-28800 TYPE II CLASS 5 STYLE E COLOR 2	
RELATIVE HUMIDITY	00210	0 TO 50C/-55 TO 75C	
ALTITUDE OPER/NDN-OPER	00220	95(+5-3)	
VIBRATION LIMIT (MAXIMUM)	00230	3050M(10000FT)/12000M(40000FT)	
SHOCK, PULSE LEVEL	00240	2G	
AMPLITUDE MODULATION	00250	306	
EXTERNAL AM SENSITIVITY	01200	20HZ TO 20KHZ BY SINE OR SQ WAVE EXT AM	
AMP MOD-INT	01230	NGT 5V R/P SINE OR SQ-WAVE TO PRODUCE 90 PCT MOD	10+ PCT
AM INTERNAL DISTORTION	01600	SELECTIVE BETWEEN 400-1000HZ SINE & SQ-WAVE	
AM SPURIOUS MODULATION	01640	DISTORTION OF AM CARRIER NOT TO EXCEED 2 PCT	5 PCT
OUTPUT ATTENUATION	01650	AT ANY FREQ AND DEV SET AT 40KHZ SPURIOUS AM NGT	+/- .208
FM INTERNAL DISTORTION	03600	RANGE NLT 100DB W/100R VERNIER DIAL AT 10R STEPS	2 PCT
FM DEVIATION	19600	MOD SIGNAL DISTORTION ON ALL FREQ NGT	
RF MOD DUE TO VIBRATION	26020	INT & EXT 3 TO 300KHZ DEV CAPABILITY	
OUTPUT FREQUENCY	26440	WHEN VIBRATED-NGT 200HZ DEVIATION AT 900/1600/2200MHZ	+/-2 PCT
OUTPUT FREQUENCY RESPONSE	26650	800MHZ TO 2.4GHZ W/NMT 5 BANOS	+/-108
FREQ SHIFT	26800	FREQ OUTPUT LEVEL VARIATION NGT +/-108 ON ANY BAND	.005 PCT
PE DRIFT DUE TO TEMP	27000	CARRIER SHIFT W/MOD FREQ NGT	
IMPEOANCE, INPUT	27220	FREQ DRIFT NGT .01 PCT AFTER 1 HR WARM UP	+/-5 PCT
OUTPUT IMPEOANCE	34400	600 OHM AM INPUT	
MODULATION VOLTAGE	35200	50 OHMS	+/-10 PCT
PULSE MOD (RM)-EX	42600	DIFERENCE BETWEEN 10KHZ & 1KHZ DEV SHOULD NOT VARY	
PULSE MOD (PM)-INT	56000	EXTERNAL PULSE MODULATION CAPABILITY	
RE SPURIOUS OUTPUT	56400	INTERNAL PULSE MODULATION OF 40-4000PPS	
RE NOISE LEVEL	68000	300B BELOW LEVEL OF UNMODULATED CARRIER	+/-108
STANDING WAVE RATIO (SWR)	68400	NGT 25HZ AT ANY FREQ	
RF VOLTAGE OUTPUT	69600	LT 2.0 TO 1	
	85600	RF NLT .5V RMS ACROSS 50 OHM LOAD	

## MILITARY OTS ETE SPECIFICATION PARAMETERS

06/22/78

OTS ETE SPECIFICATION NAME	SPEC NO	TASK NO	GROUP LTP	FAMILY CODE	TIME NO
GENERATOR, SIGNAL, VHF	19	2	A	106	9018

PARAMETER NAME	PARAMETER CODE	PARAMETER	ACCURACY (PCT) OR AS STATED
GENERATOR, SIGNAL, VHF	00100	GENERATOR, SIGNAL, VHF	
DIMENSIONS IN MM/INS	00110	482.6MM(19IN)WX609.6MM(24IN)HX533.4MM(21IN)D	
WEIGHT IN KG/LBS	00120	22.7KG(50LBS)	
ENCLOSURE (STYLE)	00130	MIL-T-28800R STYLE E W/PACKMOUNT CAPABILITY	
POWER SOURCE(S)/CONSUMPTION	00140	TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/125W	
MTBF SPECIFIED/PREDICTED	00150	2000 HRS	
PRIMARY CONNECTORS	00170	BNC SERIES RF-N-SERIES	
ENVIRONMENTAL CONDITIONS	00200	MIL-T-28800 TYPE II CLASS 5 STYLE E COLOR R	
TEMP OPER/NON-OPERATING	00210	0 TO 50C/-55 TO 75C	
RELATIVE HUMIDITY	00220	95(+5-0)	
ALTITUDE OPER/NON-OPER	00230	3050M(10000FT)/12000M(40000FT)	
VIBRATION LIMIT (MAXIMUM)	00240	2G	
SHOCK, PULSE LEVEL	00250	30G	
AMPLITUDE MODULATION	01200	20HZ TO 20KHZ BY INT OR EXTERNAL SINE OR SQ WAVE	
EXTERNAL AM SENSITIVITY	01230	SINE OR SQ-WAVE LT 5V P/P TO PRODUCE MOD OF 95PCT	
AMP MOD-INT	01600	SELECTIVE BETWEEN 400-1000HZ	+/-5 PCT
PERCENT MODULATION	01620	0-95 PCT AM BY INT OR EXT SIGNAL SOURCES	
AM INTERNAL DISTORTION	01640	DISTORTION OF AM CARRIER NGT	2 PCT
OUTPUT ATTENUATION	03600	NLT 120DB W/10DB VERNIER IN 10B STEPS	+/-2DB
FM DEVIATION	26020	INTERNAL AND EXTERNAL DEV CAPABILITY OF 0-40KHZ RMS	
RF MOD DUE TO VIBRATION	26440	AT ANY FREQ W/DEVIATION SET AT 40KHZ NGT	5 PCT
OUTPUT FREQUENCY	26650	450KHZ TO 512MHZ	+/-5 PCT
OUTPUT FREQUENCY RESPONSE	26800	OVER ANY BAND NGT	+/-2DB
CARRIER FREQUENCY SHIFT	27200	CARRIER FREQUENCY SHIFT W/MOD FREQ NGT	.005 PCT
IMPEDANCE, INPUT	34400	600 OHMS	+/-5 PCT
OUTPUT IMPEDANCE	35200	IMPEDANCE OUTPUT 50 OHMS	
MODULATION VOLTAGE	42600	DIFFERENCE BETWEEN 10KHZ & 1KHZ DEV SHALL NOT VARY	+/-10 PCT
PULSE MOD (PM)-EX	56000	EXTERNAL SIGNAL MOD CAPABILITY	
PULSE MOD (PM)-INT	56400	INTERNAL PM CAPABILITY AT 50 TO 5000PPS W/10-40USEC WIDTH	
RF SPURIOUS OUTPUT	68000	HARMONIC CONTENT LEVEL 40DB BELOW UNMODULATED CARRIER	
RF NOISE LEVEL	68400	RF NOISE LEVEL AT LEAST 35DB BELOW CARRIER LEVEL	
STANDING WAVE RATIO (SWR)	69600	LT 1.2	
RF VOLTAGE OUTPUT	85600	RF VOLTAGE VARIABLE 10V TO 1V ACROSS 50 OHM LOAD	+/-10DB

## MILITARY OTS ETE SPECIFICATION PARAMETERS

06/22/78

OTS ETE SPECIFICATION NAME	SPEC NO	TASK NO	GROUP LTR	FAMILY CODE	TMOE ID NO
STROBOSCOPE	95	2	F	065	3095

PARAMETER NAME	PARAMETER CODE	PARAMETER	ACCURACY (PCT) OR AS STATED
DIMENSIONS IN MM/INS	00100	STROBOSCOPE	
WEIGHT IN KG/LBS	00110	305MM(12IN)WX203MM(8IN)HX381MM(15IN)D	
PWR SOURCE(S)/CONSUMPTION	00120	5.44KG(12LBS)	
MTBF SPECIFIED/PREDICTED	00140	TYPE II 50,60,400HZ SINGLE PHASE 115/230VAC/30W	
PRIMARY CONNECTORS	00150	NLT 2000 HRS	
ENVIRONMENTAL CONDITIONS	00170	TIP-RING SLEEVE AUDIO PLUG	
TEMP OPER/NON-OPERATING	00200	MIL-T-28900 TYPE II CLASS 5 STYLE E COLOR R	
RELATIVE HUMIDITY	00210	0 TO 50C/-55 TO 75C	
ALTITUDE OPER/NON-OPER	00220	95(+5-0)	
VIBRATION LIMIT (MAXIMUM)	00230	3050M(10000FT)/1200M(40000FT)	
SHOCK, PULSE LEVEL	00240	2G	
FLASH CHARACTERISTICS	00250	30G	
LIGHT INTENSITY	24400	60 TO 150,000 FLASHES PER MINUTE IN 4 RANGES	+/-1 PCT
SYNCHRONIZATION, INPUT	39600	.5X10 CANDELAS	
	74000	EXTERNAL SOURCE SYNC CAPABILITY	

## MILITARY OTS ETE SPECIFICATION PARAMETERS

06/22/78

OTS ETE SPECIFICATION NAME	SPEC NO	TASK NO	GROUP LTR	FAMILY CODE	TMDE ID NO
VOLTMETER DIFFERENTIAL	38	2	R	021	9038

PARAMETER NAME	PARAMETER CODE	PARAMETER	ACCURACY (PCT) OR AS STATED
	00100	VOLTMETER DIFFERENTIAL	
DIMENSIONS IN MM/INS	00110	260MM(10IN)WX235MM(9IN)HX405MM(15.5IN)D	
WEIGHT IN KG/LBS	00120	9.07KG(20LBS)MAX	
ENCLOSURE (STYLE)	00130	MIL-T-28000 STYLE E W/RACK MOUNT CAPABILITY	
PWR SOURCE(S)/CONSUMPTION	00140	TYPE II 50.60,400HZ SINGLE PHASE 115/230VAC/12W	
MTBF SPECIFIED/PREDICTED	00150	7500 HRS	
PRIMARY CONNECTORS	00170	DUAL FEMALE BANANA PLUG	
ENVIRONMENTAL CONDITIONS	00200	MIL-T-28800 TYPE II CLASS 5 STYLE E COLOR R	
TEMP OPER/NON-OPERATING	00210	0 TO 50C/-55 TO 75C	
RELATIVE HUMIDITY	00220	95(+5-0)	
ALTITUDE OPER/NON-OPER	00230	3050M(10000FT)/12000M(40000FT)	
VIBRATION LIMIT (MAXIMUM)	00240	2G	
SHOCK, PULSE LEVEL	00250	30G	
OUTPUT FREQUENCY	26650	20HZ TO 5KHZ +/-2PCT, TOTAL RANGE 5HZ TO 100KHZ +/-5PCT	
IMPEDANCE, INPUT	34400	NLT 10MEGOHM-DC AND 1MEGOHM AC	
VOLT. MODE	46800	VOLTAGE VARIATION MEASUREMENT TO 100UVDC & 1MV AC	
VOLTAGE, AC	84000	0 TO 1000VAC IN NMT 8 RANGES	+/-0.02 PCT
VOLTAGE, DC	84400	-1000 TO 1000DC IN NMT 8 RANGES	+/-0.02 PCT

## APPENDIX J

### TMDE CROSS-REFERENCE LIST

#### 1. INTRODUCTION

This appendix cross-references compatibility data of TMDE with the definitized specifications contained in Appendixes A through G. It is structured to permit CERCOM to review and evaluate the available TMDE that are functionally compatible or partially compatible with the Military OTS ETE Specifications.

In addition, the TMDE Cross-Reference List contains the cross-reference data for the other 91 TMDE families established under a previous contract.

#### 2. ABBREVIATIONS

The following nonelectronic abbreviations are used throughout the computer listings:

EXT	- External
GT	- Greater Than
NGT	- Not Greater Than
INT	- Internal
LT	- Less Than
NLT	- Not Less Than
PCT	- Percent
W/	- With



## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE ID NO.
AMMETER, CLAMP-ON	23	FUNCTIONALLY COMPATIBLE						
			AP-9	03516	AMMETER AC	001	B	1976
			AX	13648	AMMETER AC/DC TONG PICKUP	002	B	1977
			P-3	29834	AMMETER AC	001	B	1995
			PA-151	88416	AMMETER	001	B	1999
			PA-5	89315	AMMETER AC	001	B	1997
			0-50 AMPS	33333	AMMETER AC	001	B	2034
			155	65092	AMMETER AC	001	B	2046
			373	55026	MILLIAMMETER	001	B	3709
			433A	65092	AMMETER AC	001	B	1951
			433B	65092	AMMETER AC	001	B	1953
		ME-156/U	904	65092	AMMETER	001	B	1974
		ME-488/U	4288	28480	AMMETER DC CLIP-ON	002	B	2019
		ME-65/U	131-173	28569	AMMETER	001	B	3729
		ME-65A/U	196645	65092	AMMETER	001	B	0669
		PARTIALLY COMPATIBLE						
			AK4	24446	MULTIMETER ELEC SPLIT CORE TYPE	002	B	3689
			AK4	03927	MULTIMETER ELEC SPLIT CORE TYPE	002	B	3688
			CH-7	13688	VOLT-AMMETER	032	B	3690
			RS-3	15566	MULTIMETER	032	B	1303
			RS-3A	15566	MULTIMETER	032	B	1304
			RS-300	15566	METER AC VOLT AMMETER	001	B	1305
			SER-508B	82386	TEST STAND GENERATOR LOAD	116	B	2491
			SIO-558220	92674	T S FILTER ANTENNA	063	C	1306
			UP	54085	MICROAMMETER	003	B	2031
			VAT 26	82386	MULTITESTER GENERATORS & REGULATORS	116	B	3409
			225-01-52638	52638	T S GENERATOR & VOLTAGE REG AUTO	116	B	3453
			27-37	01216	TESTER ALTERNATOR VOLT AMP	116	E	3519
			301 SERIES G	64359	TEST STAND AUTO GENERATOR & STARTER	116	E	3454
			310C	60741	MULTIMETER	032	B	1343
			428A	28480	MILLIAMMETER	001	B	2018
			445A	28569	MULTIMETER	032	B	1355
			633	65092	AMMETER	002	B	1961
			639 TYPE 3	65092	T S ELECTRICAL-POWER	039	C	1749
		AN/USM-262	560T010-12	33441	AMMETER	001	B	0495
		AN/USM-33		65092	MULTITESTER	002	B	0414
		ME-221/U	622	65092	AMMETER	001	B	0684
AMMETER, DC	24	FUNCTIONALLY COMPATIBLE						
			1400	31946	AMMETER DC	003	B	1929
			417-29	80164	AMMETER MICRO MICRO	003	B	2017
		TS-563A/FT	ALAW	64959	T S WIRING	003	B	1050

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE IO NO.
AMMETER, DC	24	PARTIALLY COMPATIBLE						
			PX4	88416	AMMETER OC	003	B	2024
			0-750 AMPS	33333	AMMETER OC	003	B	2036
			1477	29318	MULTIMETER	032	B	1380
			3469B	28480	MULTIMETER DIGITAL	032	B	1398
			412	80164	AMMETER OC	003	B	2065
			417	80164	AMMETER	003	B	2016
			425A	28480	AMMETER OC MICROVOLT	077	B	1351
			425AP	28480	AMMETER OC MICROVOLT	077	B	1352
			430	65092	MILLIVOLT-AMMETER OC	032	B	1354
			836820	65054	MILLIAMMETER	003	B	2053
			931	65092	AMMETER OC	003	B	1925
		AN/USM-262	560T010-12	33441	AMMETER	001	B	0495
		MF-452/U	12792 MOO 9	55026	AMMETER PORTABLE DC	003	B	0711
AUDIO INTENSITY METER	87	FUNCTIONALLY COMPATIBLE						
			TS-2677/FRM	22821	50040 SOUND MEASURING SET	004	E	1208
		PARTIALLY COMPATIBLE						
			1551C	24655	METERS LEVEL	004	E	2559
			1933-9714	24655	ANALYSIS SOUND SYSTEM	004	E	1723
		AN/USH-10	651A	80138	ANALYZER SET VIBRATION	004	E	0410
AUDIO OSCILLATOR	1	FUNCTIONALLY COMPATIBLE						
			CVO-100PM	65092	OSCILLATOR PRECISION	006	A	3264
			WA44C	49671	GENERATOR SIGNAL AUDIO FREQ	006	A	1875
			1022C	R0009	OSCILLATOR BEAT FREQUENCY	006	A	1653
			1210B	24655	OSCILLATOR	006	A	1828
			1307A	24655	OSCILLATOR AF	006	A	1832
			1311A	24655	OSCILLATOR AUDIO	006	A	2553
			200A	28480	AUDIO OSCILLATOR	006	A	1633
			200C0	28480	OSCILLATOR AUDIO	006	A	3343
			200J	28480	OSCILLATOR AF	006	A	1898
			201CR-C60	28480	OSCILLATOR AUDIO	006	A	1634
			202CR	28480	GENERATOR SIGNAL	006	A	3346
			208A	28480	OSCILLATOR ELECTRONIC	006	A	1637
			4204A	28480	OSCILLATOR DIGITAL	006	A	1845
			650AR-C03	28480	GENERATOR SIGNAL	006	A	1900
			651A	28480	TEST SET OSCILLATOR	006	A	1647
			651B	28480	OSCILLATOR TEST	006	A	1867
			651B-01	28480	OSCILLATOR TEST	006	A	1648
		AN/URM-127		51865	GENERATOR SIGNAL	006	A	0392
		AN/USM-253	12188	24655	GENERATOR SIGNAL	006	A	0488

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
AUDIO OSCILLATOR	1	FUNCTIONALLY COMPATIBLE						
		AN/USM-269	1310-A	24655	GENERATOR SIGNAL	006	A	0498
		O-450/U	200A8R	28480	OSCILLATOR AUDIO	006	A	3720
		O-850/U	1302A	24655	OSCILLATOR	006	A	1831
		SG-1023/U	209A	28480	OSCILLATOR	006	A	0893
		SG-107/MSA-6	206A	28480	GENERATOR SIGNAL AUDIO	006	A	3659
		SG-1128/U	654A	28480	TEST OSCILLATOR	006	A	1858
		SG-15/PCM	5490		GENERATOR SIGNAL	006	A	0824
		SG-42/URM-18	1107A	24655	GENERATOR SIGNAL	006	A	0826
		SG-510/U	201C	28480	OSCILLATOR AF	006	A	0857
		SG-543A/U	2048-H07	28480	GENERATOR SIGNAL	006	A	0859
		SG-578/U	650A	28480	TEST OSCILLATOR	006	A	0862
		SG-621/U	202C	28480	GENERATOR SIGNAL	006	A	0864
		SG-632/U	204801	28480	GENERATOR SIGNAL	006	A	0865
		SG-632A/U	2048	28480	GENERATOR SIGNAL	006	A	0866
		SG-632B/U	204802	28480	GENERATOR SIGNAL	006	A	0857
		SG-71/FCC	233A	28480	GENERATOR SIGNAL	006	A	0832
		SG-71A/FCC	233A	28480	GENERATOR SIGNAL	006	A	0833
		SG-71B/FCC	233A	28480	GENERATOR SIGNAL	006	A	0834
		SG-71C/FCC	190	67116	GENERATOR SIGNAL	006	A	0835
		SG-763/U	652A	28480	GENERATOR SIGNAL	006	A	0873
		SG-763A/U	652A-H02	28480	GENERATOR SIGNAL	006	A	0874
		SG-770/U	241A	28480	OSCILLATOR PUSHBUTTON	006	A	0876
		SG-837/U	1210C	24655	OSCILLATOR	006	A	1655
		SG-981/U	TTS39A-4	06819	GENERATOR TONE	006	A	0888
		SG-984/U	6518002	28480	GENERATOR SIGNAL	006	A	0889
		TS-312/FSM-1	200CR	28480	GENERATOR SIGNAL	006	A	0997
		TS-312A/FSM-1	200COR	28480	GENERATOR SIGNAL	006	A	0995
		TS-312B/FSM-1	20-200	01486	GENERATOR SIGNAL	006	A	0996
		TS-3329/U	236A	28480	T S TELEPHONE	006	A	1241
		TS-3401/TSC-388	577087-1	49956	T S VOICE FREQUENCY TONE GENERATOR	006	A	1242
		TS-382/U	200C	28480	AUDIO OSCILLATOR	006	A	1001
		TS-382A/U	200C	99872	GENERATOR SIGNAL	006	A	1002
		TS-382B/U			GENERATOR SIGNAL	006	A	1003
		TS-382C/U		99872	GENERATOR SIGNAL	006	A	1004
		TS-382D/U		78796	GENERATOR SIGNAL	006	A	1005
		TS-382E/U		82076	GENERATOR SIGNAL	006	A	1006
		TS-421/U	205AG	28480	GENERATOR SIGNAL	006	A	1016
		TS-421A/U	205AG-H02	28480	GENERATOR SIGNAL	006	A	1017
		TS-421B/U	2975M	28569	GENERATOR SIGNAL	006	A	1018
		TS-421C/U	F370A	29805	GENERATOR SIGNAL	006	A	1019

## PART I TMOF CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOF

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE OF SIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
AUDIO OSCILLATOR	1	PARTIALLY COMPATIBLE						
			F53A	07421	GENERATOR SIGNAL	006	A	1599
			1003	24655	GENERATOR SIGNAL	051	A	1652
			13108	24655	OSCILLATOR	006	A	1656
			134A	21461	OSCILLATOR AUDIO RF	006	A	3341
			190A	80009	GENERATOR SIGNAL	051	A	1632
			190B	80009	GENERATOR SINE WAVE	051	A	1897
			2028	28480	CONVERTER FREQ	051	A	1769
			204C	28480	OSCILLATOR AUDIO	006	A	1636
			440-AR	88865	OSCILLATOR PUSHBUTTON	006	A	1860
			440A	88865	OSCILLATOR AUDIO FREQ	006	A	1879
			5105A/51108	28480	SYNTHESIZER FREQ	106	A	1846
			51108	28480	SYNTHESIZER DRIVER	051	A	1847
			6068	28480	GENERATOR SIGNAL	051	A	1643
			7127	06811	GENERATOR SIGNAL TWO-TONE AUDIO	048	A	1683
			739AR	28480	T S FREQ RESPONSE	051	A	1871
			8660B-001	28480	SYNTHESIZED SIGNAL GENERATOR	107	A	2073
			86601A	28480	RF SECTION	051	A	2089
			8708A	28480	GENERATOR SIGNAL R I SYNCHRONIZER	106	A	2081
		AN/GRM-50	606A	28480	GENERATOR SIGNAL	051	A	0174
		AN/GRM-50A	11507A	28480	GENERATOR SIGNAL	051	A	0175
		AN/GRM-50B	606A-C15	28480	GENERATOR SIGNAL	051	A	0176
		AN/GRM-50C	921A	33013	GENERATOR SIGNAL	051	A	0177
		AN/URM-2580	315	21900	GENERATOR SIGNAL	051	A	0341
		AN/URM-25F	162-0-003	92428	GENERATOR SIGNAL	051	A	0342
		AN/URM-25H	152-2-6-1	66150	GENERATOR SIGNAL	051	A	0343
		AN/URM-25J		26648	GENERATOR SIGNAL	051	A	0344
		AN/URM-93	245-A	04901	VOLTAGE STANDARD RADIO FREQ	051	A	0377
		AN/URM-93A	245-D	04901	VOLTAGE STANDARD RADIO FREQ	051	A	0378
		AN/USM-205	650A	28480	GENERATOR SIGNAL	006	A	0469
		AN/USM-205A	6205-1	25778	GENERATOR SIGNAL	006	A	0470
		AN/USM-212	758-0047-001	13499	GENERATOR SIGNAL	051	A	0476
		AN/USM-272	191	80009	GENERATOR SIGNAL	051	A	0501
		CP-1100/U	51008/51108	28480	COUNTER ELEC DIGITAL	051	A	0550
		SG-20/U	658	14140	SIGNAL GENERATOR	051	A	0825
		SG-298A/U	180	21764	GENERATOR SIGNAL	047	A	0840
		SG-321/U	5533	83563	GENERATOR SIGNAL	047	A	0844
		SG-321A/U		80063	GENERATOR SIGNAL	047	A	0845
		SG-3218/U		24635	GENERATOR SIGNAL	047	A	0846
		SG-479/GRM-50	606A	28480	GENERATOR SIGNAL	051	A	0856
		SG-511/U	606A	28480	GENERATOR SIGNAL HF	051	A	0858
		TS-420/U	76A	64959	T S TELEPHONE	006	A	1013
		TS-420A/U	76A	64959	T S TELEPHONE	006	A	1014
		TS-420B/U	76C	64959	T S TELEPHONE	006	A	1015

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

DTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

DTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE ID NO.
AUDIO SYSTEM TEST SET	71	FUNCTIONALLY COMPATIBLE						
			10215019	18876	CALIBRATOR ASSY SOUND LEVEL	112	D	2436
			8100A-W	12578	T S SOUND RECORDING	112	D	2325
		ME-254/U	590-A1	73446	METER FLUTTER AND WOW	112	D	0689
		ME-254A/U	FL-3D-1	B3003	METER FLUTTER AND WOW	112	D	0690
		PARTIALLY COMPATIBLE						
		ME-356/U	OP-182B	14140	METER AUDIO LEVEL	005	D	0702
BRIDGE, UNIVERSAL	25	FUNCTIONALLY COMPATIBLE						
			DPI70	28569	BRIDGE RESISTANCE DIGITAL	008	B	1990
			E1002	07239	BRIDGE IMPEDANCE	008	B	3267
			E3108	07239	BRIDGE RESISTANCE	008	B	1295
			M-3	56289	T S CAPACITOR COMPACT	011	B	1300
			DIB-2	19482	IMPEDANCE BRIDGE HIGH FREQ	008	B	1562
			PN-1600	08987	RESISTANCE BRIDGE	008	B	2000
			SP2280	11837	IMPEDANCE MEASURING SYSTEM	022	B	3292
			1610-B2	24655	CAPACITANCE MEASURING ASSEMBLY	011	B	1384
			1611A	24655	BRIDGE CAPACITANCE	008	B	1385
			1615AM	24655	CAPACITANCE BRIDGE	011	B	2570
			1620A	24655	CAPACITANCE MEASUREMENT SYSTEM	011	B	2571
			1632	24655	BRIDGE INDUCTANCE	024	B	2572
			1650B	24655	BRIDGE IMPEDANCE	008	B	1475
			1652A	24655	BRIDGE RESISTANCE	008	B	1931
			2700	09553	BRIDGE UNIVERSAL IMPEDANCE	008	B	1487
			290-A-MCD	11837	IMPEDANCE BRIDGE	008	B	3350
			300U27	01216	TESTER CAPACITOR	011	B	3186
			315A	11837	BRIDGE IMPEDANCE	008	B	3592
			5430A	31922	BRIDGE RESISTANCE	008	B	1949
			7040	79409	TESTER IMPEDANCE GROUNDLOOP	022	O	1420
			716C	24655	BRIDGE CAPACITANCE	011	B	1367
			750	04901	BRIDGE CAPACITANCE	011	B	1369
		AN/URM-90	402-D-7046	83777	T S CAPACITANCE INDUCTANCE RESISTANCE	024	B	0375
		AN/LSM-263	300	11837	BRIDGE VOLTAGE RESISTANCE	008	B	0496
		AN/LSM-357	130	80009	METER INDUCTANCE AND CAPACITANCE	011	B	0536
		ZM-11/U	712	13259	BRIDGE CAPACITANCE INDUCTANCE RESIS	011	B	1276
		ZM-11A/U			BRIDGE CAPACITANCE INDUCTANCE RESIS	011	B	1277
		ZM-11B/U			BRIDGE CAPACITANCE INDUCTANCE RESIS	011	B	1278
		ZM-3/U			T S CAPACITOR	011	B	1271
		ZM-3A/U			ANALYZER CAPACITOR	011	B	1272
		ZM-4/U	5300	31922	BRIDGE RESISTANCE	008	B	1273
		ZM-4A/U	3015L	66150	BRIDGE RESISTANCE	008	B	1274
		ZM-4B/U			BRIDGE RESISTANCE	008	B	1275
		ZM-61/U	250B	28480	BRIDGE CAPACITANCE INDUCTANCE RESIS	008	B	1284

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SREC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GR LTR	TMDE IO NO.
BRIDGE, UNIVERSAL	25	FUNCTIONALLY COMPATIBLE						
		ZM-68/U	OSR-5C-4R	88869	BRIDGE IMPEDANCE	008	B	1285
		ZM-69	1650-9701	24655	BRIDGE IMPEDANCE	008	B	3630
		ZM-69A	1650-9702	24655	BRIDGE IMPEDANCE	008	B	3631
		ZM-70/U	2500E	11837	BRIDGE CAPACITANCE INDUCTANCE RESIS	008	B	1286
		ZM-71/U	4263A	28480	BRIDGE IMPEDANCE	008	B	1287
		PARTIALLY COMPATIBLE						
			8F60	93790	TESTER CAPACITOR RESISTOR	011	B	1289
			E3067	07239	POTENTIOMETER	008	B	1982
			SR2979	11837	BRIDGE KELVIN	008	B	3293
	TN-5	56289	BRIDGE CAPACITANCE	011	B	1337		
	ZB-2A	80740	BRIDGE IMPEDANCE	011	B	1314		
	1050	28009	WHEATSTONE BRIDGE	008	B	1926		
	1080	28009	WHEATSTONE BRIDGE HIGH PRECISION	008	B	1379		
	1212A	24655	DETECTOR NULL	008	B	1714		
	1290		INDUCTANCE STANDARD	FRE 024	B	3493		
	1604A	24655	COMPARATOR IMPEDANCE	008	B	1474		
	231B	11837	WHEATSTONE BRIDGE	008	B	1333		
	250-A	04901	METER RX	022	B	1334		
	4271	31922	BRIDGE RESISTANCE	008	B	1405		
	4285	31922	BRIDGE RESISTANCE	008	B	1948		
	4735	31922	BRIDGE RESISTANCE	008	B	1408		
	5305	31922	WHEATSTONE BRIDGE	008	B	1414		
CABLE TEST SET	28	FUNCTIONALLY COMPATIBLE						
			1501/323	80009	REFLECTOMETER TIME-DOMAIN	009	E	1381
			1502	80009	TIME-DOMAIN REFLECTOMETER	009	E	1382
	PARTIALLY COMPATIBLE							
		1580A	28480	SAMPLER NARROW BAND TOR	009	E	1383	
		4910B	28480	LOCATOR OPEN FAULT	009	E	1411	
	TS-3187/U	4910A	28480	LOCATOR CABLE FAULT	009	E	1228	
	TS-3606(V)1/U	4910F	28480	OPEN FAULT LOCATOR	009	E	1412	
CALORIMETER	42	FUNCTIONALLY COMPATIBLE						
			CRM-500	91161	METER CALORIMETRIC POWER	010	C	1809
			434A	28480	CALORIMETER OIL TYRE 10 WATTS	010	C	1731
			6300	70998	WATTMETER THERMAL RF	010	C	2119
		AN/USM-83		94987	WATTMETER CALORIMETRIC	010	C	0433



## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFP. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTP	TMDE IO NO.
CALORIMETER	42	PARTIALLY COMPATIBLE						
			TLCG-100K	91161	WATTMETER CALORIMETRIC	010	C	1796
DATA ERROR TEST SET	72	FUNCTIONALLY COMPATIBLE						
			J79902C111-902C	64959	T S DATA	013	0	2388
			1645A	28480	ANALYZER DATA ERROR	013	0	1662
			7003	91417	ANALYZER ERROR BIT	013	0	1682
			901	51277	TESTER BIT ERROR RATE	013	0	2387
		AN/GCM-4	J7990182	64959	T S TELEPHONE	013	0	3542
		TS-3478/U	1200	50572	T S MODEM	013	0	2390
DIAL EQUIPMENT TEST SET	73	FUNCTIONALLY COMPATIBLE						
		AN/TSM-86	900-26600-01	83744	TELEPHONE T S	122	0	0287
		AN/TSM-86A	900-26600-00	83744	SIGNALING TEST SET	122	0	2386
		TS-3176/USM-378	TTS-268	06819	T S PULSE SIGNALING	122	0	1226
		TS-3629/U	7078	27364	QUICK CHECK TEST SET	122	0	2385
		PARTIALLY COMPATIBLE						
			TTI-1110A	50137	T S TELEPHONE	071	0	2364
			TTS-48NH	06819	TELEPHONE TEST SET	071	0	2362
			13-8	14100	T S PULSING LIMITS	122	0	2371
			25	04773	SIGNAL TEST SET	122	0	2372
		TS-27/TSM	0166237	64959	T S TELEPHONE	032	8	0956
		TS-27A/TSM	71-3003		T S TELEPHONE	032	8	0957
		TS-27R/TSM	ETS-278	00798	T S TELEPHONE	032	8	0958
		TS-3178/U	J940020(2D)	64959	T S TELEPHONE	122	8	1227
DISTORTION ANALYZER	74	FUNCTIONALLY COMPATIBLE						
			334A	28480	ANALYZER DISTORTION	014	0	3359
		AN/UPM-180	333A	28480	INDICATOR DISTORTION	014	0	0403
		AN/URM-184	334A-C10-001	28480	DISTORTION ANALYZER	014	0	0406
		AN/URM-184A	334-A01-C10	28480	ANALYZER DISTORTION	014	0	0407
		AN/USM-259	331A	28480	ANALYZER DISTORTION	014	0	0492
		ME-153/U	1932-A	24655	INDICATOR DISTORTION	014	0	0678
		ME-336/U	332A	28480	INDICATOR DISTORTION	014	0	0698
		TS-2394/G	331AP	28480	ANALYZER DISTORTION	014	0	1194
		TS-723/U	3308	28480	ANALYZER SPECTRUM	014	0	1092
		TS-723A/U	3308	28480	ANALYZER SPECTRUM	014	0	1093
		TS-7238/U	36A	14140	ANALYZER SPECTRUM	014	0	1094
		TS-723C/U	10000	99395	ANALYZER SPECTRUM	014	0	1095
		TS-7230/U	10000	99395	ANALYZER SPECTRUM	014	0	1096



## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL RUPDSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYRE DESIGNATDP	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE IO NO.
DISTORTION ANALYZER	74	PARTIALLY CDMRATIBLE						
			VZM-3	04598	SET DISTORTION MEASURING	014	D	1616
ENVELOPE DELAY TEST SET	75	FUNCTIONALLY CDMRATIBLE						
		TS-2395/G	3408	94668	ENVELOPE DELAY T S	016	O	1195
		TS-2395A/G	340A	94668	ENVELOPE DELAY T S	016	D	1196
		TS-2669/GCM	490A	03860	MEASURING SET ENVELOPE DELAY DISTOR	016	D	1206
		TS-2669A/GCM	490B	03860	MEASURING SET ENVELOPE DELAY DISTOR	016	D	1207
FIELD STRENGTH METER A	43	FUNCTIONALLY COMPATIBLE						
			NM-17/27	88869	METER EMI FIELD INTENSITY	043	C	1782
			NM-26T	88869	ELECTROMAGNETIC NOISE METER	043	C	1783
		AN/PRM-1	9D300-1	88869	RADIO T S	043	C	3597
		ME-61/GRC		80063	METER FIELD STRENGTH	043	C	0668
		PARTIALLY COMPATIBLE						
			5110A	28480	METER FREQ	020	C	2105
			59	14140	METER GRID DIR	020	C	1753
		AN/LRM-178	EMC-25R	18581	RADIO INTERFERENCE MEASURING SET	043	C	0402
		AN/URM-47A		88869	RADIO INTERFERENCE MEASURING SET	043	C	0352
		AN/LRM-478	NM-30A	88869	RADIO INTERFERENCE MEASURING SET	043	C	0353
		AN/LRM-47C	218	06053	RADIO INTERFERENCE MEASURING SET	043	C	0354
		AN/LRM-501	NF-105	16665	MEASURING SET RADIO INTERFERENCE	043	C	3724
		AN/URM-85		16665	RADIO INTERFERENCE MEASURING SET	043	C	0371
		AN/LRM-85A		16665	RADIO INTERFERENCE MEASURING SET	043	C	0372
		AN/URM-91	TM-275	30040	METER FIELD STRENGTH	043	C	0376
FIELD STRENGTH METER B	44	FUNCTIONALLY COMPATIBLE						
			NM-37/57	88869	METER EMI FIELD INTENSITY	043	C	1784
			5024	20905	T S STABILITY	020	C	2104
		PARTIALLY CDMRATIBLE						
			59	14140	METER GRID DIR	020	C	1763
		AN/URM-178	EMC-25R	18581	RADIO INTERFERENCE MEASURING SET	043	C	0402
		AN/URM-47A		88869	RADIO INTERFERENCE MEASURING SET	043	C	0352
		AN/URM-478	NM-30A	88869	RADIO INTERFERENCE MEASURING SET	043	C	0353
		AN/URM-47C	218	06053	RADIO INTERFERENCE MEASURING SET	043	C	0354
		AN/URM-501	NF-105	16665	MEASURING SET RADIO INTERFERENCE	043	C	3724
		AN/URM-85		16665	RADIO INTERFERENCE MEASURING SET	043	C	0371
		AN/URM-85A		16665	RADIO INTERFERENCE MEASURING SET	043	C	0372
		AN/URM-91	TM-275	30040	METER FIELD STRENGTH	043	C	0376

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE IO NO.
FIELD STRENGTH METER C	45	FUNCTIONALLY COMPATIBLE	AN/USM-227	N-F-157	03782 MEASURING SET POWER DENSITY	043	C	0484
			PARTIALLY COMPATIBLE					
		AN/LRM-110A	EMA-910	88869 METER RADIO INTERFER AND FIELD INTE	043	C	2352	
			RADIO INTERFERENCE MEASURING SET	043	C	3681		
FIELD STRENGTH METER D	46	FUNCTIONALLY COMPATIBLE	EMA-910	88869 METER RADIO INTERFER AND FIELD INTE	043	C	2352	
			PARTIALLY COMPATIBLE					
		AN/LSM-227	N-F-157	03782 MEASURING SET POWER DENSITY	043	C	0484	
FREQUENCY METER A	47	FUNCTIONALLY COMPATIBLE	CL-400	14704 METER ELECTRICAL FREQ	020	C	1808	
			PFM 6048	03927 METER FREQ	020	C	1785	
		90662	76487 METER GRID DIP	020	C	2448		
		PARTIALLY COMPATIBLE						
		AN/TSM-16	MF10	METER RESONANT REED FREQ	020	E	1779	
			339	65092 METER FREQ	020	C	1773	
			404	80053 DISCRIMINATOR FREQ	020	C	1726	
				99395 METER FREQ	020	C	0277	
		FREQUENCY METER B	48	FUNCTIONALLY COMPATIBLE	1142A	24655 METER/DISCRIMINATOR FREQ	020	C
291A	06424 METER FREQ				020	C	1770	
AN/URM-79	56118 METER FREQ			020	C	0368		
FR-38A/U	28480 FREQ METER			020	C	0564		
FR-380/U	94033 METER FREQ			020	C	0565		
FR-38F/U	00346 METER FREQ			020	C	0566		
FR-4/U	56118 METER FREQ			020	C	0563		
PARTIALLY COMPATIBLE								
	FM-7			METER FREQ	020	C	1813	
	1144A	24655 DIGITAL FREQ METER	020	C	3553			
	2006	27593 VOLTMETER HETERODYNE	020	C	2099			
	339	65092 METER FREQ	020	C	1773			
	5008	28480 METER FREQ	020	C	1735			

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE ID NO.
FREQUENCY METER B	48	PARTIALLY COMPATIBLE						
			5008R	28480	METER FREQ	020	C	3364
			7350A	80053	FREQ METER	020	C	3549
		AN/TSM-16		99395	METER FREQ	020	C	0277
		AN/URM-32	SCL-1341	49673	METER FREQ	020	C	0348
		AN/UPM-32A		49673	METER FREQ	020	C	0349
		AN/URM-30		35225	METER FREQ	020	C	0369
		AN/USM-159	K50110500	35225	METER FREQ	020	C	0450
		AN/USM-159A	K50110200	35225	METER FREQ	020	C	0451
		AN/USM-275	90651	76487	METER GPID DIP	020	C	0504
		I-129	71-1388	80063	WAVEMETER	020	C	0577
		TS-186D/UP		21900	METER FREQ	020	C	0982
		TS-186E/UP	317-0	37093	METER FREQ	020	C	0983
		TS-186F/UP	T-737-317-D	51865	METER FREQ	020	C	0984
FREQUENCY METER C	49	FUNCTIONALLY COMPATIBLE						
		AN/UPM-81		35225	METER FREQ	020	C	0370
		PARTIALLY COMPATIBLE						
			FM-7		METER FREQ	020	C	1813
			1144A	24655	DIGITAL FREQ METER	020	C	3553
			2006	27593	VOLTMETER HETERODYNE	020	C	2099
			536A	28480	WAVEMETER ABSORPTION TYPE	020	C	2802
		AN/URM-32	SCL-1341	49673	METER FREQ	020	C	0348
		AN/URM-32A		49673	METER FREQ	020	C	0349
		AN/URM-30		35225	METER FREQ	020	C	0369
		AN/USM-159	K50110500	35225	METER FREQ	020	C	0450
		AN/USM-159A	K50110200	35225	METER FREQ	020	C	0451
		AN/USM-275	90651	76487	METER GPID DIP	020	C	0504
		I-129	71-1388	80063	WAVEMETER	020	C	0577
		TS-186D/UP		21900	METER FREQ	020	C	0982
		TS-186E/UP	317-0	37093	METER FREQ	020	C	0983
		TS-186F/UP	T-737-317-D	51865	METER FREQ	020	C	0984
FREQUENCY METER D	50	FUNCTIONALLY COMPATIBLE						
			TF 1026/1	09335	METER FREQ	020	C	1791
		PARTIALLY COMPATIBLE						
			FM-7		METER FREQ	020	C	1813
			2006	27593	VOLTMETER HETERODYNE	020	C	2099
			536A	28480	WAVEMETER ABSORPTION TYPE	020	C	2802
			587A	77327	METER FREQ	020	C	3365

J-12

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

QTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

QTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFP. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
FREQUENCY METER D	50	PARTIALLY COMPATIBLE						
		AN/USM-159	K50110500	35225	METER FREQ	020	C	0450
		AN/USM-159A	K50110200	35225	METER FREQ	020	C	0451
FREQUENCY METER F	51	FUNCTIONALLY COMPATIBLE						
		TF 1026/2		09335	METER FREQ	020	C	1792
		PARTIALLY COMPATIBLE						
		FM-7			METER FREQ	020	C	1813
		536A		28480	WAVEMETER ABSORPTION TYPE	020	C	2802
		587A		77327	METER FREQ	020	C	3365
		AN/USM-159	K50110500	35225	METER FREQ	020	C	0450
		AN/USM-159A	K50110200	35225	METER FREQ	020	C	0451
FREQUENCY METER F	52	FUNCTIONALLY COMPATIBLE						
		TF 1026/3		09335	METER FREQ	020	C	1793
		TF 1026/4		09335	METER FREQ	020	C	1794
		WCF-1217-4N		16786	METER FREQ	020	C	1797
		12L1		06424	FREQ METER	020	C	3554
		FR-146/U	N410A	00929	WAVEMETER	020	C	0571
		FR-91/U	FS-C-173B	16786	WAVEMETER	020	C	0569
		PARTIALLY COMPATIBLE						
		536A		28480	WAVEMETER ABSORPTION TYPE	020	C	2802
		TS-1860/UP		21900	METER FREQ	020	C	0982
		TS-186E/UP	317-0	37093	METER FREQ	020	C	0983
		TS-186F/UP	T-737-317-0	51865	METER FREQ	020	C	0984
FREQUENCY METER G	53	FUNCTIONALLY COMPATIBLE						
		C410B		00929	METER FREQ	020	C	1807
		G532A		28480	FREQ METER	020	C	3270
		H530A		28480	METER FREQ	020	C	1816
		J532A		28480	METER FREQ	020	C	1821
		N414A		00929	METER FREQ	020	C	1781
		WDA3712		16786	METER WAVF	020	C	3318
		X410A		00929	METER FREQ	020	C	1798
		X532A		28480	METER FREQ	020	C	1799
		X551		28480	WAVEMETER	020	C	1750
		FR-126/U	X532B	28480	WAVEMETER	020	C	0570
		FR-194/U	H532A	28480	METER FREQ	020	C	0574
		ME-495/U	537A	28480	METER FREQ	020	C	1741

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE IO NO.
FREQUENCY METER G	53	PARTIALLY COMPATIBLE						
		TS-1860/UP		21900	METER FREQ	020	C	0982
		TS-186E/UP	317-0	37093	METER FRFQ	020	C	0983
		TS-186F/UP	T-737-317-D	51865	METER FREQ	020	C	0984
FREQUENCY METER H	54	FUNCTIONALLY COMPATIBLE						
		Y410A		00929	METER FREQ	020	C	1751
FREQUENCY METER I	55	FUNCTIONALLY COMPATIBLE						
		K410A		00929	WAVEMETER	020	C	1822
		K532A		28480	METER FREQ	020	C	3272
		P532A		28480	METER FREQ	020	C	3282
GAUSS METER	89	FUNCTIONALLY COMPATIBLE						
		R-79		22336	GAUSSMETER	021	E	1893
		1890		49673	GAUSSMETER	021	E	1722
		660		18479	GAUSSMETER	021	F	3368
		750		49673	GAUSSMETER	021	E	1702
		TS-150/AP	S-01		FLUXMETER	021	E	0952
		PARTIALLY COMPATIBLE						
		1965		49673	GAUSSMETER	021	E	1724
		2470-350		49673	CHARTER MAGNET	021	E	2101
GENERATOR, SIGNAL, FUNCTION	2	FUNCTIONALLY COMPATIBLE						
		F51A		07421	GENERATOR SIGNAL	047	A	1902
		F55A		07421	GENERATOR FUNCTION	047	A	1812
		IG-115		03782	GENERATOR SIGNAL	047	A	1908
		10182653		04164	GENERATOR MULTIFUNCTION	047	A	2097
		106 TYPE 2		80009	GENERATOR SQUARE WAVE	054	A	3340
		107		80009	SQUARE WAVE GENERATOR	054	A	1884
		116 VCC		23338	GENERATOR PHASE LOCK FUNCTION	047	A	1887
		1410		65092	ANALYZER FREQUENCY RESPONSE	047	A	1657
		3301A		28480	AUXILLARY P I	047	A	1841
		3310A		28480	GENERATOR FUNCTION	047	A	1842
		5048		10597	GENERATOR WAVEFORM	047	A	1852
		71		14140	GENERATOR SQUARE WAVE	054	A	1881
		AN/USM-256	791A	72314	GENERATOR SIGNAL	054	A	0491
		AN/USM-271	184	80009	GENERATOR ELEC MARKER	050	A	0500
		AN/USM-358	106	80009	GENERATOR SIGNAL	054	A	0537
		SG-106/U	105	80009	GENERATOR SQUARE WAVE	054	A	0838

J-14

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFP. MODEL NO.	MFP. CODE	NOMENCLATURE	FAMILY CODE	GP LTP	TMOE IO NO.
GENERATOR, SIGNAL, FUNCTION	2	FUNCTIONALLY COMPATIBLE						
		SG-298/U	W-1	08775	GENERATOR SIGNAL	047	A	0839
		SG-298A/U	180	21764	GENERATOR SIGNAL	047	A	0840
		SG-299/U	802-296	28569	GENERATOR SIGNAL	054	A	0841
		SG-2998/U	902-333	28569	GENERATOR SIGNAL	054	A	0842
		SG-321/U	5533	83563	GENERATOR SIGNAL	047	A	0844
		SG-321A/U		80063	GENERATOR SIGNAL	047	A	0845
		SG-321B/U		24635	GENERATOR SIGNAL	047	A	0846
		SG-747	3300A	28480	GENERATOR SIGNAL	047	A	0872
		SG-769/U	111	23338	GENERATOR SIGNAL	047	A	0875
		SG-772/G	105 M001498	80009	GENERATOR SIGNAL	054	A	0877
		TS-583/U	210A	28480	GENERATOR SIGNAL	054	A	3636
		TS-583A/U	E-136204	35225	GENERATOR SIGNAL	054	A	3637
		PARTIALLY COMPATIBLE						
			1854	30669	GENERATOR SQUAPE WAVE AND ELEC SWIT	054	A	1896
			202A	28480	GENERATOR SIGNAL	047	A	3345
			214A-C38	28480	GENERATOR PULSE	050	A	3253
			440-AR	88865	OSCILLATOR PUSHBUTTON	006	A	1860
		AN/USM-108	180A	28569	GENERATOR TIME MARK	047	A	0440
		AN/USM-108B		28569	GENERATOR TIME MARK	047	A	0441
		AN/USM-269	1317-A	24655	GENERATOR SIGNAL	006	A	0498
		PL-1178/U	3304A	28480	SWEEP/OFFSET PLUG-IN	047	A	0791
GENERATOR, SIGNAL, PULSE	4	FUNCTIONALLY COMPATIBLE						
			87B	06692	GENERATOR PULSE	050	A	3251
			MP-1	04596	PULSER MINI	050	A	1912
			PG-32	24141	GENERATOR PULSE	050	A	1914
			101	15933	PULSE GENERATOR	050	A	1883
			1013	82199	GENERATOR PULSE	050	A	1874
			10182657	04164	GENERATOR PULSE	050	A	2098
			1217C	24655	GENERATOR PULSE	050	A	1830
			132A	13488	GENERATOR PULSE	050	A	1889
			2138	28480	GENERATOR PULSE	050	A	1850
			214A	28480	GENERATOR PULSE	050	A	3348
			222A	28480	GENERATOR PULSE	050	A	1853
			2901	80009	GENERATOR TIME MARK	050	A	1840
			8151832	18876	GENERATOR PULSE	050	A	2093
			9142834	88600	GENERATOR PULSE	050	A	2094
		AN/GPM-15		82076	GENERATOR SIGNAL	050	A	0159
		AN/GPM-15A	CA-748	82076	GENERATOR SIGNAL	050	A	0160
		AN/PPM-1	212A	28480	GENERATOR PULSE	050	A	0239
		AN/PPM-1A	212A	28480	GENERATOR PULSE	050	A	3596
		AN/UPM-15		98179	GENERATOR PULSE	050	A	0316

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
GENERATOR, SIGNAL, PULSE	4	FUNCTIONALLY COMPATIBLE						
		AN/UPM-15A	1-1997	15196	GENERATOR PULSE	050	A	0317
		AN/USM-255	792A	72314	GENERATOR SIGNAL	050	A	0490
		AN/USM-359	115	80009	PULSE GENERATOR	050	A	3617
		AN/USM-374	111	80009	GENERATOR PULSE	050	A	0541
		SG-343/UPM-15A		15196	GENERATOR PULSE	050	A	0850
		SG-475/APS-94	100720	06344	OSCILLATOR PULSE DELAY	050	A	0855
		SG-63B/UPM-10	15802	36004	GENERATOR PULSE	050	A	0827
		SG-69/PPM	212A	28480	GENERATOR PULSE	050	A	0818
		SG-69A/PPM-1	212A	28480	GENERATOR PULSE	050	A	0830
		SG-69B/PPM-1	212A	28480	GENERATOR PULSE	050	A	0831
		TS-592/UPM-15	382663F		GENERATOR PULSE	050	A	1058
		TS-592A/UPM-15	AS1019	88585	GENERATOR PULSE	050	A	1059
		PARTIALLY COMPATIBLE						
			K7006	28480	GENERATOR SIGNAL P I	050	A	3273
			RCO 20006	23405	OSCILLATOR DUAL PHASE	050	A	3287
			TC-501	80009	TIME MARK GENERATOR	050	A	1795
			109	80009	GENERATOR PULSE	054	A	1885
			1105A	28480	GENERATOR PULSE	050	A	2562
			1398	13488	GENERATOR PULSE	050	A	1890
			1920A	28480	GENERATOR PULSE	050	A	1838
			214A-C38	28480	GENERATOR PULSE	050	A	3253
			216A	28480	GENERATOR PULSE	050	A	1851
			218A	28480	GENERATOR DIGITAL DELAY	050	A	1852
			3450D	92110	GENERATOR PULSE	050	A	1844
			5070B	80138	GENERATOR PULSE	050	A	2576
			6254-5	13222	GENERATOR SIGNAL	050	A	1848
			8005B	28480	GENERATOR PULSE	050	A	1849
		AN/USM-271	184	80009	GENERATOR ELEC MARKER	050	A	0530
		SG-1105/U	8013B	28480	GENERATOR PULSE	050	A	2057
		SG-366/U	570A	80138	GENERATOR PULSE	050	A	0851
		SG-366A/U	5070B	80138	GENERATOR PULSE	050	A	0852
GENERATOR, SIGNAL, UHF	16	FUNCTIONALLY COMPATIBLE						
			L7006	77327	GENERATOR SIGNAL	107	A	3275
			12058F	82199	MODULAR MICROWAVE SIGNAL SOURCE	107	A	1713
			1205F	82199	SIGNAL GENERATOR MICROWAVE	107	A	1827
			18500B	99899	GENERATOR SIGNAL	107	A	2581
			470A-1800	94668	GENERATOR SIGNAL	107	A	1851
		AN/URM-64-1		76809	GENERATOR SIGNAL	107	A	0363
		AN/URM-64-2		76809	GENERATOR SIGNAL	107	A	0364
		AN/URM-64A-1	C-016-04001	03877	GENERATOR SIGNAL	107	A	0365
		AN/LRM-64A-2	C-0161-04001	03877	GENERATOR SIGNAL	107	A	0366



## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE ID NO.
GENERATOR, SIGNAL, UHF	16	FUNCTIONALLY COMPATIBLE						
		AN/USM-213	8614A	28480	GENERATOR SIGNAL	107	A	0477
		AN/USM-213A	8614B	28480	GENERATOR SIGNAL	107	A	0478
		SG-97/FRC	614A	28480	GENERATOR SIGNAL	107	A	0837
		TS-419/U	H-12		GENERATOR SIGNAL	107	A	1012
		PARTIALLY COMPATIBLE						
			2650A	28480	OSCILLATOR SYNCHRONIZER	053	A	1667
			86632A	28480	RF SECTION	107	A	2090
		AN/URM-149	SM-0-630000	82199	GENERATOR SIGNAL	107	A	0396
		AN/URM-56	9008	01113	GENERATOR SIGNAL	107	A	0361
		AN/URM-61A	C-0-153-03007	99180	GENERATOR SIGNAL	053	A	0362
		AN/USM-251	1209C	24655	GENERATOR SIGNAL	107	A	0758
GENERATOR, SIGNAL, VHF	18	FUNCTIONALLY COMPATIBLE						
		8C-376M		94486	GENERATOR SIGNAL	106	A	2349
		M185-4		16469	GENERATOR SIGNAL	106	A	3277
		M186-4		16469	GENERATOR RF POWER P I	106	A	3278
		TF-1066A		09553	SIGNAL GENERATOR	106	A	1612
		TF-1247		09553	OSCILLATOR	106	A	1920
		TF1066/B6		09553	GENERATOR SIGNAL	106	A	1919
		102A		04901	GENERATOR SIGNAL	106	A	1630
		10668/6		09553	GENERATOR SIGNAL FM	106	A	1825
		1203A		24655	OSCILLATOR UNIT	106	A	1654
		1215B		24655	OSCILLATOR UNIT	106	A	1829
		202E		28480	GENERATOR SIGNAL	106	A	1635
		211A		28480	GENERATOR SIGNAL	106	A	1638
		406A		98278	OSCILLATOR	106	A	1858
		608C <sup>0</sup>		28480	GENERATOR SIGNAL VHF	106	A	3366
		608CR(MOD)		28480	GENERATOR SIGNAL VHF	106	A	3367
		608D		28480	GENERATOR SIGNAL	106	A	1744
		608E		28480	GENERATOR SIGNAL VHF	106	A	1863
		750-S138		33013	GENERATOR SIGNAL	106	A	1872
		8640A		28480	GENERATOR SIGNAL	106	A	1591
		8640B		28480	GENERATOR SIGNAL AM-FM	106	A	2071
		8640B-001		28480	GENERATOR SIGNAL	106	A	1593
		8654A		28480	GENERATOR SIGNAL VHF	106	A	1594
		AN/APM-26C	100190	87793	GENERATOR SIGNAL	106	A	0139
		AN/RRM-10		13094	TEST OSCILLATOR	106	A	0240
		AN/URM-109	31-0-141	79300	GENERATOR SIGNAL	106	A	0388
		AN/URM-181	202H	28480	GENERATOR SIGNAL	106	A	0434
		AN/URM-26	294	21900	GENERATOR SIGNAL	106	A	0345
		AN/URM-26A	136015		GENERATOR SIGNAL	106	A	0346
		AN/LRM-268	136015		GENERATOR SIGNAL	106	A	0347

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
GENERATOR, SIGNAL, VHF	18	FUNCTIONALLY COMPATIBLE						
		AN/URM-48		15196	GENERATOR SIGNAL	106	A	0355
		AN/URM-70		07450	GENERATOR SIGNAL	106	A	0367
		AN/USM-252	1215C	24655	GENERATOR SIGNAL	106	A	0487
		AN/USM-313	1211C	24655	GENERATOR SIGNAL	106	A	0523
		AN/USM-44		28480	GENERATOR SIGNAL	106	A	0421
		AN/USM-44A	608D-F02	28480	GENERATOR SIGNAL	106	A	0422
		RC-376		80063	GENERATOR SIGNAL	106	A	0546
		SG-1038/U	3701A	28480	GENERATOR SIGNAL	106	A	0894
		SG-12/U		15196	GENERATOR SIGNAL	106	A	0822
		SG-13/ARN		16636	GENERATOR SIGNAL	106	A	0823
		SG-309/GRC-47	608C	28480	GENERATOR SIGNAL	106	A	0843
		SG-867/U	470A-500	98329	GENERATOR SIGNAL	106	A	0880
		SG-969/U	608F	28480	VHF SIGNAL GENERATOR	106	A	0883
		SG-975/U	32038	28480	GENERATOR SIGNAL	106	A	0885
		TS-497/URR			GENERATOR SIGNAL	106	A	1031
		TS-497A/URR			GENERATOR SIGNAL	106	A	1032
		TS-497B/URR			GENERATOR SIGNAL	106	A	1033
		TS-4978/URR	SM-8-334504	04423	GENERATOR SIGNAL	106	A	1034
		PARTIALLY COMPATIBLE						
			10046503	18876	OSCILLATOR RADIO FREQUENCY	051	A	1597
			5105A/51108	28480	SYNTHESIZER FREQ	106	A	1846
			6068	28480	GENERATOR SIGNAL	051	A	1643
			86602B	28480	P I UNIT RE SECTION	051	A	3587
			86631B	28480	AUXILIARY SECTION	107	A	2091
			86632A	28480	MODULATION SECTION	107	A	2092
			8708A	28480	GENERATOR SIGNAL P I SYNCHRONIZER	106	A	2081
		AN/GPM-15		82076	GENERATOR SIGNAL	050	A	0159
		AN/GPM-15A	CA-748	82076	GENERATOR SIGNAL	050	A	0160
		AN/GRM-50	606A	28480	GENERATOR SIGNAL	051	A	0174
		AN/GRM-50A	11507A	28480	GENERATOR SIGNAL	051	A	0175
		AN/GRM-50B	606A-C15	28480	GENERATOR SIGNAL	051	A	0176
		AN/GRM-50C	921A	33013	GENERATOR SIGNAL	051	A	0177
		AN/URM-93	245-A	04901	VOLTAGE STANDARD RADIO FREQ	051	A	0377
		AN/URM-93A	245-O	04901	VOLTAGE STANDARD RADIO FREQ	051	A	0378
		AN/USM-251	1209C	24655	GENERATOR SIGNAL	107	A	0758
		AN/USM-272	191	80009	GENERATOR SIGNAL	051	A	0501
		AN/USM-312	1362	24655	GENERATOR SIGNAL	107	A	0522
		CP-1100/U	51008/51108	28480	COUNTER ELEC DIGITAL	051	A	0550
		SG-340A/U	612A	28480	GENERATOR SIGNAL	107	A	0849
		SG-366/U	570A	80138	GENERATOR PULSE	050	A	0851
		SG-366A/U	5070B	80138	GENERATOR PULSE	050	A	0852
		TS-452D/U		36004	GENERATOR SIGNAL	052	A	1027

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE IO NO.
IMPULSE NOISE COUNTER	76	FUNCTIONALLY COMPATIBLE						
			1018	16152	COUNTER TIMER	023	0	2198
		CP-1101/U	TTS58A	06819	COUNTER ELEC DIGITAL	023	0	0551
INSULATION, TEST SET	26	FUNCTIONALLY COMPATIBLE						
			HD125XC		TESTER HIGH POTENTIAL	025	8	1298
			KS50-40	92656	T S HIGH VOLTAGE	025	8	1299
			1294012	79500	T S INSULATION BREAKDOWN	025	8	1442
			1862/BS1	24655	OHMMETER	025	8	1389
			1862A	24655	OHMMETER ELECTRONIC	025	8	1934
			1862B	24655	MEG OHMMETER	025	8	1390
			1862C	24655	MEG OHMMETER	025	8	1391
			1864	24655	MEG OHMMETER	025	8	1392
			1864-9700	24655	MEG OHMMETER	025	8	1393
			4045	04237	TESTER INSULATION BREAKDOWN	025	8	1433
			63GH00	24446	METER INSULATION	025	8	1319
			79X831	24446	T S INSULATION BREAKDOWN	025	8	1321
			8174880	24617	MEG OHMMETER TESTER INSULATION	025	8	1443
		ZM-214/U	561000	66150	OHMMETER	025	8	1280
		ZM-218/U	A98400020	66150	OHMMETER	025	8	1281
		PARTIALLY COMPATIBLE						
			ESH MIX	88869	VOLTMETER	035	8	1297
			K1B		TESTER TURF CONTRAST TRSER	072	8	2547
			1050	28009	WHEATSTONE BRIDGE	008	8	1926
			136X	77068	TESTER CAPACITOR HI-POT	025	8	1324
			1620-B	73396	MEG OHMMETER	025	8	1386
			1644A	24655	OHMMETER BRIDGE	035	8	1387
			178-C	83490	TESTER INSULATION LEAKAGE	025	8	1327
			21J1052	07239	TESTER INSULATION MEGGER	025	8	1315
			21158	07239	OHMMETER LOW RESISTANCE	025	8	1437
			313	55026	MULTIMETER	032	8	1345
			3202P	28569	SYSTEM DIGITAL MEASURING	077	8	1939
			36C	30119	TESTER INSULATION	025	8	1317
			41-001	30119	T S PORTABLE HI-POT	025	8	1318
			4735	31922	BRIDGE RESISTANCE	008	8	1408
			6048-1A1061094	77820	TESTER AC-DC INSULATION	025	8	1358
		AN/GSM-13A	7659240	19200	ELECTRICAL CABLE TEST SET	077	8	0193
		AN/GSM-45	8213077	19200	T S ELECTRICAL CABLE	077	8	0196

## PART I TMDE CPDSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE IO NO.
LOGIC ANALYZER	77	FUNCTIONALLY COMPATIBLE						
			1601L	28480	ANALYZER LOGIC STATE	027	0	2522
		PARTIALLY COMPATIBLE						
			10525A	28480	LOGIC PROBE	027	0	2701
			10528A	28480	LOGIC CLIR	027	0	2702
			10529A	28480	LOGIC COMPARATOR	027	0	2703
			5011T	28480	LOGIC TPDOUBLESHOOTING KIT	027	0	2545
MEGOhmmETER	27	FUNCTIONALLY COMRATIBLE						
			0-1	88416	OhmmETER PORTABLE	029	B	2033
			1620	73386	MEGOhmmETER	029	B	1930
			269	04237	TESTER VIBROTEST	029	B	2005
			679	07239	MEGOhmmETER	029	B	1366
			7676-1	07239	MEGOhmmETER	025	B	1424
		AN/PSM-1			INSULATION T S	025	B	3564
		PAPTIALLY COMRATIBLE						
			MIL-T-10314	65092	T S OhmmETER	035	B	1990
			1080	28009	WHEATSTONE BRIDGE HIGH PRECISION	008	B	1379
			1620-B	73386	MEGOhmmETER	025	B	1386
			1644A	24655	OhmmETER BRIDGE	035	B	1387
			21J1052	07239	TESTER INSULATION MEGGER	025	B	1315
			21158	07239	OhmmETER LOW RESISTANCE	025	B	1437
			313	55026	MULTIMETER	032	B	1345
			36C	30119	TESTER INSULATION	025	B	1317
			41-001	30119	T S PORTABLE HI-POT	025	B	1318
		AN/GSM-13A	7659240	19200	ELECTRICAL CABLE TEST SET	077	B	0193
		AN/GSM-45	8213077	19200	T S ELECTRICAL CABLE	077	B	0196
		AN/RRM-15	282-76	82680	MULTIMETER	032	B	0241
		MF-36B/U	610	96332	OhmmETER	035	B	0703
		ZM-54/U	LRO-1	05721	OhmmETER	035	B	1282
MICROWAVE LINK ANALYZER	56	FUNCTIONALLY COMPATIBLE						
			3737A	28480	DOWN CONVERTER P Y	030	C	3719
		CV-3427(VII)/U	3730A-004	28480	DOWN CONVERTER RF TO IF	030	C	1676
		DT-542/U	3703A	28480	DETECTOR SIGNAL DELAY	030	C	0561
		DT-550/U	3703B	28480	DETECTOR SIGNAL DELAY	030	C	0562
		MD-913(P)/U	3702A	28480	ANALYZER MICROWAVE LINK	030	C	0646
		C-1736/U	3736A	28480	PLUG IN DOWN CONVERTER OSCILLATOR	030	C	1677

## PART 1 TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE 10 NO.
MICROWAVE LINK ANALYZER	56	PARTIALLY COMPATIBLE						
		PL-1394/U	3705A	28480	DETECTOR DIFFERENTIAL PHASE PLUG IN	061	C	1673
		PL-1401/U	3738A	28480	PLUG IN DOWN CONVERTER OSCILLATOR	030	C	1678
		PL-1405(V)1/U	3716A-004	28480	BASEBAND TRANSMITTER	030	C	1675
		R-2049(V)1/U	3702B	28480	RECEIVER 1F/8B	061	C	1672
		T-1353(V)1/U	3710A-004	28480	1F 8B TRANSMITTER	030	C	1674
MODULATION METER	57	FUNCTIONALLY COMPATIBLE						
		AR-1C		15196	METER DEVIATION FM	031	C	1598
		MM-120		98282	METER AMPLITUDE MODULATION	031	C	1602
		TF-934		09553	METER DEVIATION FM	031	C	1611
		934		09553	METER FM DEVIATION	031	C	1651
		ME-57/U		81865	METER MODULATION	031	C	0656
		ME-57A/U		81865	METER MODULATION	031	C	0657
		ME-57B/U			MODULATION METER	031	C	3624
		PARTIALLY COMPATIBLE						
		TF-2300-1		09553	METER AM FM MODULATION	031	C	1614
		TF-2300A		09553	METER MODULATION AM/FM	031	C	1613
		TF-7910		09553	METER CARRIER DEVIATION	031	C	1610
MULTIMETER A	28	FUNCTIONALLY COMPATIBLE						
		APE-1292		04468	TESTER CONTINUITY SHIELDING	118	E	2416
		TTS-28		06819	MEASURING SET	032	B	3683
		101-58F		98202	TESTER IGNITER CKT CONTINUITY	118	E	1323
		160		55026	MULTIMETER	032	A	1325
		200		80164	VOLTMETER ELEC	032	B	1329
		230		55026	MULTIMETER	032	B	1332
		501905		97424	MULTIMETER	032	B	1441
		564		65092	OHMMETER VOLT	032	B	1356
		600		60741	VOLT-OHMMETER	032	B	1357
		630		60741	VOLT-OHM-MILLIAMMETER	032	B	1360
		631		60741	MULTIMETER ELEC	032	B	1361
		666H		60741	MULTIMETER	032	B	1364
		666HH		60741	MULTIMETER	032	B	1365
		666RW669RL		60741	MULTIMETER	032	B	1418
		7000		96662	AMMETER AC VOLT	032	B	1419
		779		65092	MULTIMETER	032	B	1370
		785		65092	MULTIMETER PORTABLE	032	B	1372
		801		60741	MULTIMETER	032	B	1373
		827X51		24446	MULTIMETER	032	B	1374
		850		60741	MULTIMETER	032	B	1375
		990		60741	T S INDUSTRIAL ANALYZER	032	B	2520

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

QTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

QTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE IO NO.
MULTIMETER A	28	FUNCTIONALLY COMPATIBLE						
		AN/PSM-6		95325	MULTIMETER	032	B	0254
		AN/PSM-6A		95325	MULTIMETER	032	B	0255
		AN/PSM-6B	199-5002	95325	MULTIMETER	032	B	0246
		AN/URM-105			MULTIMETER	032	B	0385
		AN/URM-105B		06833	MULTIMETER	032	B	0386
		AN/LPM-105C	R105	12510	MULTIMETER	032	B	0387
		AN/LSM-183	412A	28480	MULTIMETER	032	B	3633
		ME-26/U	410A	28480	MULTIMETER	032	B	0655
		ME-26A/U	410B	28480	MULTIMETER	032	B	0656
		ME-26B/U		91820	MULTIMETER	032	B	0657
		ME-26C/U	260000	99395	MULTIMETER	032	B	0658
		ME-260/U			MULTIMETER	032	B	0659
		ME-262/U	305A	50423	VOLTMETER	076	B	0692
		ME-264/U	300M	50423	VOLTMETER ELECTRONIC	076	B	3628
		ME-450/U	260-6	16902	MULTIMETER	032	B	0709
		ME-489/U	749	65092	MULTIMETER	032	B	1368
		ME-77			MULTITESTER	032	B	3626
		ME-87/U	280	65092	MULTIMETER	032	B	0676
		TS-26/TSM			T S TELEPHONE	032	B	0953
		TS-26A/TSM	121956	82066	T S TELEPHONE	032	B	0954
		TS-26B/TSM		88562	T S TELEPHONE	032	B	0955
		TS-297/U		71440	MULTIMETER	032	B	0994
		TS-352/U	972	65092	MULTIMETER	032	B	0999
		TS-352B/U		77221	MULTIMETER	032	B	1030
		TS-816/U	KS-14103	64959	T S TELEPHONE	118	B	1115
		PARTIALLY COMPATIBLE						
		CH-7		13688	VOLT-AMMETER	032	B	3690
		CT3		31989	TESTER CKT CONTINUITY AUDIBLE	118	B	1293
		OCHI		03782	VOLTMETER	077	B	2654
		K1B			TESTER TUBE CONTRAST TRSER	072	B	2547
		PM-32		65054	MULTIMETER ELEC	032	B	1301
		RS-3		15566	MULTIMETER	032	B	1303
		RS-3A		15566	MULTIMETER	032	B	1304
		RS-300		15566	METER AC VOLT AMMETER	001	B	1305
		SER-508B		82386	TEST STANO GENERATOR LOAD	116	B	2491
		T-4		88273	TRACER SIGNAL	118	E	2496
		TVCM-3		25778	METER OHM	032	B	1308
		VA-35		88416	VOLTMETER AC	076	B	3693
		VAT 26		82386	MULTITESTER GENERATORS & REGULATORS	116	B	3409
		WV-98C		49671	MULTIMETER	032	B	1310
		1007		15566	MULTIMETER	032	B	1378
		12890		91547	VIBRATION ANALYZER ENGINE	111	B	2052
		167		80164	MULTIMETER AUTORANGING DIGITAL	032	B	1326

## PART 1 TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE 10 NO.
MULTIMETER A	2B	PARTIALLY COMPATIBLE						
			1806A	24655	VOLTMETER ELECTRONIC	032	B	1624
			195A	49671	MULTIMETER	032	B	1328
			201	04237	MULTIMETER PORTABLE	032	B	1330
			225-01-52638	52638	T S GENERATOR & VOLTAGE REG AUTO	116	B	3453
			255	04237	VIBROGROUND	035	B	2004
			260-5	55026	MULTIMETER	032	B	1336
			27-37	01216	TESTER ALTERNATOR VOLT AMP	116	E	3519
			301 SERIES G	64359	TEST STAND AUTO GENERATOR & STARTER	116	E	3454
			303	55026	MULTIMETER	032	B	1340
			310	60741	MULTIMETER	032	B	1341
			310C	60741	MULTIMETER	032	B	1343
			311	55026	METER VOLT OHM	032	B	1344
			313	55026	MULTIMETER	032	B	1345
			360B	14506	MULTIMETER DIGITAL	032	B	1346
			41-132	38474	VOLTMETER DC	077	B	2037
			427A	28480	MULTIMETER	032	B	1353
			445A	28569	MULTIMETER	032	B	1355
			51B	49932	VOLTMETER ELECTROSTATIC	076	B	1958
			610FH	03438	ANALYZER CKT	118	E	1359
			622	65092	VOLTMETER DC	077	B	1960
			633VA1	65092	MULTIMETER	032	B	1362
			639 TYPE 3	65092	T S ELECTRICAL POWER	039	C	1749
			689	65092	OHMMETER	035	B	1962
			901	50423	VOLTMETER DC	077	B	3701
		AN/GSM-13A	7659240	19200	ELECTRICAL CABLE TEST SET	077	B	0193
		AN/GSM-45	B213077	19200	T S ELECTRICAL CABLE	077	B	0196
		AN/PRM-15	282-76	82680	MULTIMETER	032	B	0241
		AN/PSM-4	979	65092	MULTIMETER	032	B	0247
		AN/PSM-4A		55026	MULTIMETER	032	B	0248
		AN/PSM-4B	0-2667		MULTIMETER	032	B	0249
		AN/PSM-4C		91820	MULTIMETER	032	B	0250
		AN/PSM-4D	127160	19913	MULTIMETER	032	B	0251
		AN/PSM-4E	PSM-4	12510	MULTIMETER	032	B	0252
		AN/PSM-4F		12510	MULTIMETER	032	B	0253
		AN/PSM-4G	11000-2		MULTIMETER	032	B	0258
		AN/USM-123	269	55026	VOLT-OHM-AMMETER	032	B	3561
		AN/USM-189	630A	60741	MULTIMETER	032	B	0464
		AN/USM-210	260	55026	MULTIMETER	032	B	1335
		AN/USM-223		28569	MULTIMETER	032	B	0482
		AN/USM-262	560T010-12	33441	AMMETER	001	B	0495
		AN/USM-98	801	89536	VOLTMETER ELEC	077	B	0437
		IS-185	433	65092	VOLTMETER	076	B	0632
		ME-147/U	ESH	54085	VOLTMETER	076	B	0677
		ME-227/U	MV-17C	85711	VOLTMETER ELEC	077	B	0686
		ME-227A/U	353	33430	VOLTMETER ELEC	077	B	0687



## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
MULTIMETER A	28	PARTIALLY COMPATIBLE						
		ME-260/U	4038	28480	VOLTMETER ELEC	076	8	0691
		ME-30/U	400C	28480	VOLTMETER ELEC	076	8	0650
		ME-30A/U	4000	28480	VOLTMETER ELEC	076	8	0661
		ME-30B/U	513A	26687	VOLTMETER ELEC	076	8	0662
		ME-303A/U	410C	28480	VOLTMETER ELEC	032	8	0694
		ME-338/U	345	50423	MULTIMETER	032	8	0699
		ME-368/U	610	96332	OHMMETER	035	8	0703
		ME-370/U	427A W/11075A	28480	MULTIMETER	032	8	0704
		ME-419/U	270	55026	MULTIMETER ELEC	032	8	0705
		ME-448/U	4288	28480	AMMETER	002	8	3728
		ME-452/U	12792 MOD 9	55026	AMMETER PORTABLE OC	003	8	0711
		TS-27/TSM	D166237	64959	T S TELEPHONE	032	8	0956
		TS-27A/TSM	71-3003		T S TELEPHONE	032	8	0957
		TS-27B/TSM	ETS-278	00798	T S TELEPHONE	032	8	0958
		TS-505/U	123		MULTIMETER	032	8	1035
		TS-505A/U	PL3000	77221	MULTIMETER	032	8	1036
		TS-505B/U	011700	94066	MULTIMETER	032	8	1037
		TS-505C/U			MULTIMETER	032	8	1038
		TS-505D/U			MULTIMETER	032	8	1039
		TS-505E/U	EA0-197/129	02581	MULTIMETER	032	8	1040
		ZM-54/U	LRQ-1	05721	OHMMETER	035	8	1282
MULTIMETER B	29	FUNCTIONALLY COMPATIBLE						
		DM501		80009	MULTIMETER DIGITAL	032	8	3747
		OPZ		04244	VOLTMETER OC	077	8	3702
		E9500B1400		15381	MULTIMETER DIGITAL	035	8	1296
		PM-32		65054	MULTIMETER ELEC	032	8	1301
		RR-139-X		86270	T S CURRENT RESISTANCE SEMIAUTOMATI	029	8	2028
		TO-700542		06840	TEST CONSOLE BASIC	032	8	3140
		U-SP(400)		03782	MULTIMETER	032	8	1309
		167		80164	MULTIMETER AUTORANGING DIGITAL	032	8	1326
		2019		03626	DIGITAL MULTIMETER	032	8	3704
		261C		14031	MULTIMETER DIGITAL	032	8	1337
		3430A		28480	VOLTMETER DIGITAL	078	8	1942
		3439A-C-28		28480	VOLTOHM MILLIAMMETER MAINFRAME DIGI	032	8	1292
		3444A		28480	OC MULTIFUNCTION UNIT	032	8	1395
		3444A-C15		28480	P I UNIT ELEC TEST EQUIP	032	8	1291
		3445A		28480	VOLTMETER P I UNIT	076	8	1944
		3445A-C06		28480	AC OC RANGE P I UNIT	032	8	1978
		34508		28480	MULTIFUNCTION METER	032	8	1397
		3608		14506	MULTIMETER DIGITAL	032	8	1346
		4324		21793	MULTIMETER DIGITAL	032	8	1406
		4440		29318	MULTIMETER	032	8	1407
		570352127		21793	VOLTMETER DIGITAL RATIO METER	078	8	2578

## PART 1 TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE ID NO.
MULTIMETER A	28	PARTIALLY COMPATIBLE						
			1806A	24655	VOLTMETER ELECTRONIC	032	B	1624
			195A	49671	MULTIMETER	032	B	1328
			201	04237	MULTIMETER PORTABLE	032	B	1330
			225-01-52638	52638	T S GENERATOR & VOLTAGE REG AUTO	116	B	3453
			255	04237	VIBROGROUND	035	B	2004
			260-5	55026	MULTIMETER	032	B	1336
			27-37	01216	TESTER ALTERNATOR VOLT AMP	116	E	3519
			301 SERIES G	64359	TEST STAND AUTO GENERATOR & STARTER	116	E	3454
			303	55026	MULTIMETER	032	B	1340
			310	60741	MULTIMETER	032	B	1341
			310C	60741	MULTIMETER	032	B	1343
			311	55026	METER VOLT OHM	032	B	1344
			313	55026	MULTIMETER	032	B	1345
			360B	14506	MULTIMETER DIGITAL	032	B	1346
			41-132	38474	VOLTMETER DC	077	B	2037
			427A	28480	MULTIMETER	032	B	1353
			445A	28569	MULTIMETER	032	B	1355
			518	49932	VOLTMETER ELECTROSTATIC	076	B	1958
			610FH	03438	ANALYZER CKT	118	E	1359
			622	65092	VOLTMETER DC	077	B	1950
			633VA1	65092	MULTIMETER	032	B	1362
			639 TYPE 3	65092	T S ELECTRICAL POWER	039	C	1749
			689	65092	OHMMETER	035	B	1962
			901	50423	VOLTMETER DC	077	B	3701
		AN/GSM-13A	7659240	19200	ELECTRICAL CABLE TEST SET	077	B	0193
		AN/GSM-45	8213077	19200	T S ELECTRICAL CABLE	077	B	0196
		AN/PRM-15	282-76	82680	MULTIMETER	032	B	0241
		AN/PSM-4	979	65092	MULTIMETER	032	B	0247
		AN/PSM-4A		55026	MULTIMETER	032	B	0248
		AN/PSM-4B	D-2667		MULTIMETER	032	B	0249
		AN/PSM-4C		91820	MULTIMETER	032	B	0250
		AN/PSM-4D	127160	19913	MULTIMETER	032	B	0251
		AN/PSM-4E	PSM-4	12510	MULTIMETER	032	B	0252
		AN/PSM-4F		12510	MULTIMETER	032	B	0253
		AN/PSM-4G	11000-2		MULTIMETER	032	B	0258
		AN/USM-123	269	55026	VOLT-OHM-AMMETER	032	B	3551
		AN/USM-189	630A	60741	MULTIMETER	032	B	0464
		AN/USM-210	260	55026	MULTIMETER	032	B	1335
		AN/USM-223		28569	MULTIMETER	032	B	0482
		AN/USM-262	560T010-12	33441	AMMETER	001	B	0495
		AN/USM-98	801	89536	VOLTMETER ELEC	077	B	0437
		IS-185	433	65092	VOLTMETER	076	B	0632
		ME-147/U	ESH	54085	VOLTMETER	076	B	0677
		ME-227/U	MV-17C	85711	VOLTMETER ELEC	077	B	0686
		ME-227A/U	353	33430	VOLTMETER ELEC	077	B	0687

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE ID NO.
MULTIMETER A	28	PARTIALLY COMPATIBLE						
		ME-260/U	4038	28480	VOLTMETER ELEC	076	8	0691
		ME-30/U	400C	28480	VOLTMETER ELEC	076	8	0650
		ME-30A/U	4000	28480	VOLTMETER ELEC	076	8	0661
		ME-30B/U	513A	26687	VOLTMETER ELEC	076	8	0662
		ME-303A/U	410C	28480	VOLTMETER ELEC	032	8	0694
		ME-338/U	345	50423	MULTIMETER	032	8	0699
		ME-368/U	610	96332	OHMMETER	035	8	0703
		ME-370/U	427A W/11075A	28480	MULTIMETER	032	8	0704
		ME-419/U	270	55026	MULTIMETER ELEC	032	8	0705
		ME-448/U	4288	28480	AMMETER	002	8	3728
		ME-452/U	12792 MDD 9	55026	AMMETER PORTABLE DC	003	8	0711
		TS-27/TSM	0166237	64959	T S TELEPHONE	032	8	0956
		TS-27A/TSM	71-3003		T S TELEPHONE	032	8	0957
		TS-27B/TSM	ETS-278	00798	T S TELEPHONE	032	8	0958
		TS-505/U	123		MULTIMETER	032	8	1035
		TS-505A/U	PL3000	77221	MULTIMETER	032	8	1036
		TS-505B/U	D11700	94066	MULTIMETER	032	8	1037
		TS-505C/U			MULTIMETER	032	8	1038
		TS-505D/U			MULTIMETER	032	8	1039
		TS-505E/U	EAD-197/129	02581	MULTIMETER	032	8	1040
		ZM-54/U	LRQ-1	05721	OHMMETER	035	8	1282
MULTIMETER B	29	FUNCTIONALLY COMPATIBLE						
		DM501		80009	MULTIMETER DIGITAL	032	8	3747
		DPZ		04244	VOLTMETER DC	077	8	3702
		E95DD81400		15381	MULTIMETER DIGITAL	035	8	1296
		PM-32		65054	MULTIMETER ELEC	032	8	1301
		RR-139-X		86270	T S CURRENT RESISTANCE SEMIAUTOMATI	029	8	2028
		TD-700542		06840	TEST CONSOLE BASIC	032	8	3140
		U-SP(MOD)		03782	MULTIMETER	032	8	1309
		167		80164	MULTIMETER AUTORANGING DIGITAL	032	8	1326
		2019		03626	DIGITAL MULTIMETER	032	8	3704
		261C		14031	MULTIMETER DIGITAL	032	8	1337
		3430A		28480	VOLTMETER DIGITAL	078	8	1942
		3439A-C-28		28480	VOLTOHM MILLIAMMETER MAINFRAME DIGI	032	8	1292
		3444A		28480	DC MULTIFUNCTION UNIT	032	8	1395
		3444A-C15		28480	P I UNIT ELEC TEST EQUIP	032	8	1291
		3445A		28480	VOLTMETER P I UNIT	076	8	1944
		3445A-C06		28480	AC DC RANGE P I UNIT	032	8	1978
		34508		28480	MULTIFUNCTION METER	032	8	1397
		3608		14506	MULTIMETER DIGITAL	032	8	1346
		4324		21793	MULTIMETER DIGITAL	032	8	1406
		4440		29318	MULTIMETER	032	8	1407
		5703S2127		21793	VOLTMETER DIGITAL RATIO METER	078	8	2578

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
MULTIMETER B	29	FUNCTIONALLY COMPATIBLE						
			7050	06811	MULTIMETER	032	B	1421
			8000A-01	89536	MULTIMETER DIGITAL	032	B	1426
			8200A	89536	VOLTMETER DIGITAL	078	B	1432
			8200A	89536	VOLTMETER DIGITAL	032	B	1425
			901	50423	VOLTMETER OC	077	B	3701
			970A	28480	MULTIMETER DIGITAL	032	B	1377
		AN/USM-303	300M	13913	MULTIMETER	032	B	0513
		AN/USM-303A	300MA	13913	MULTIMETER	032	B	0514
		ID-2101/U	34750A	28480	P I MULTIMETER DISPLAY	032	B	1439
		ME-338/U	345	50423	MULTIMETER	032	B	0699
		ME-370/U	427A W/11075A	28480	MULTIMETER	032	B	0704
		ME-498/U	34702A	28480	MULTIMETER	032	B	3565
		PL-1344/U	5265A	28480	VOLTMETER DIGITAL P I	078	B	0809
		PARTIALLY COMPATIBLE						
			CH-7	13688	VOLT-AMMETER	032	B	3690
			OY-2401A-M19	06401	VOLTMETER DIGITAL	078	B	1981
			ELECCI	32590	VOLTMETER	076	B	1983
			ESV	32590	VOLTMETER	076	B	3268
			MIL-T-10314	65092	T S OHMMETER	035	B	1990
			M1	03782	VOLTMETER ELEC	076	B	1989
			P-93008	98438	VOLTMETER	077	B	1996
			PT-3L	89954	VOLTMETER AC	076	B	3686
			PX151	79500	VOLTMETER PORTABLE	077	B	2026
			PX5	79500	VOLTMETER OC	077	B	2025
			SI0558209	64959	T S SWR IMPEDANCE	063	C	3100
			X1	03626	MULTIMETER DIGITAL	032	B	1311
			101	89497	MULTIMETER BLASTING	032	B	1322
			111	55026	VOLTMETER	077	B	2040
			1346	24655	MICROVOLTAGE AUDIO FREQ	076	A	1927
			1477	29318	MULTIMETER	032	B	1380
			18008	24655	VOLTMETER ELECTRONIC	076	B	1933
			1806A	24655	VOLTMETER ELECTRONIC	032	B	1624
			195A	49671	MULTIMETER	032	B	1328
			2008	80164	VOLTMETER AC DC	076	B	1975
			24421	03626	MULTIMETER ASSEMBLY	032	B	1438
			34698	28480	MULTIMETER DIGITAL	032	B	1398
			355	50423	VOLTMETER AC OC	076	B	2015
			41-132	38474	VOLTMETER OC	077	B	2037
			414A	28480	AUTOVOLTMETER	077	B	3569
			419A	28480	VOLTMETER OC NULL	077	B	1350
			425A	28480	AMMETER OC MICROVOLT	077	B	1351
			425AR	28480	AMMETER OC MICROVOLT	077	B	1352
			430	65092	MILLIVOLT-AMMETER DC	032	B	1354

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL RURROSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE ID NO.
MULTIMETER B	29	PARTIALLY COMPARATIBLE						
			430	65092	MILLIVOLTMETER DC	077	8	2021
			500-01	13643	VOLTMETER DIGITAL	078	8	1957
			501905	97424	MULTIMETER	032	8	1441
			5400	21793	MULTIMETER	032	8	1415
			5640	21793	MULTIMETER DIGITAL	078	8	1416
			600	60741	VOLT-OHMMETER	032	8	1357
			630	60741	VOLT-OHM-MILLIAMMETER	032	8	1360
			666H	60741	MULTIMETER	032	8	1364
			666HH	60741	MULTIMETER	032	8	1365
			666RW669PL	60741	MULTIMETER	032	8	1418
			689	65092	OHMMETER	035	8	1962
			7000	96662	AMMETER AC VOLT	032	8	1419
			7100A	13989	VOLTMETER	078	8	1422
			7300A631	98438	MULTIMETER DIGITAL	032	8	2048
			7630	98438	MULTIMETER DIGITAL	032	8	1423
			779	65092	MULTIMETER	032	8	1370
			785	65092	MULTIMETER PORTABLE	032	8	1372
			801	60741	MULTIMETER	032	8	1373
			8100A-01	89536	MULTIMETER DIGITAL	032	8	1428
			81008	89536	MULTIMETER DIGITAL	032	8	1429
			8120A	89536	MULTIMETER DIGITAL	032	8	1430
			8125A	89536	MULTIMETER	032	8	1431
			8300A	89536	MULTIMETER DIGITAL	032	8	1433
			8350A	89536	MULTIMETER DIGITAL	032	8	1434
			8400A	89536	VOLTMETER DIGITAL	078	8	1435
			990	60741	T S INDUSTRIAL ANALYZER	032	8	2520
		AN/LSM-319A	269-2	55026	MULTIMETER DIGITAL	032	8	3718
		AN/USM-98	801	89536	VOLTMETER ELEC	077	8	0437
		IS-185	433	65092	VOLTMETER	076	8	0632
		ME-147/U	ESH	54085	VOLTMETER	076	8	0677
		ME-202/U	803	89536	VOLTMETER ELEC	121	8	0682
		ME-202R/U	803R	89536	VOLTMETER ELEC	121	8	0683
		ME-227/U	MV-17C	85711	VOLTMETER ELEC	077	8	0686
		ME-227A/U	353	33430	VOLTMETER ELEC	077	8	0687
		ME-26/U	410A	28480	MULTIMETER	032	8	0655
		ME-26A/U	4108	28480	MULTIMETER	032	8	0656
		ME-268/U		91820	MULTIMETER	032	8	0657
		ME-26C/U	260000	99395	MULTIMETER	032	8	0658
		ME-260/U			MULTIMETER	032	8	0659
		ME-260/U	4038	28480	VOLTMETER ELEC	076	8	0691
		ME-262/U	305A	50423	VOLTMETER	076	8	0692
		ME-264/U	300M	50423	VOLTMETER ELECTRONIC	076	8	3628
		ME-30/U	400C	28480	VOLTMETER ELEC	076	8	0650
		ME-30A/U	4000	28480	VOLTMETER ELEC	076	8	0661
		ME-308/U	513A	26687	VOLTMETER ELEC	076	8	0652

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE ID NO.
MULTIMETER B	29	PARTIALLY COMPATIBLE						
		ME-303A/U	410C	28480	VOLTMETER ELEC	032	B	0694
		ME-333/U	217A	16335	MULTIMETER	032	B	0696
		ME-334/U	309-1	00638	VOLTMETER ELEC	076	B	0697
		ME-368/U	610	96332	OHMMETER	035	B	0733
		ME-419/U	270	55026	MULTIMETER ELEC	032	B	0735
		ME-444/U	320A	50423	VOLTMETER ELEC	076	B	0708
		ME-448/U	428B	28480	AMMETER	002	B	3728
		ME-450/U	260-6	16902	MULTIMETER	032	B	0709
		ME-452/U	12792 MOD 9	55026	AMMETER PORTABLE OC	003	B	0711
		ME-489/U	749	65092	MULTIMETER	032	B	1368
		ME-77			MULTITESTER	032	B	3626
		ME-87/U	280	65092	MULTIMETER	032	B	0676
		TS-26/TSM			T S TELEPHONE	032	B	0953
		TS-26A/TSM	121956	82066	T S TELEPHONE	032	B	0954
		TS-26B/TSM		88562	T S TELEPHONE	032	B	0955
		TS-2843/U	883AB	89536	VOLTMETER	121	B	1210
		TS-297/U		71440	MULTIMETER	032	B	0994
		TS-340/U	182092	65092	VOLTMETER	076	B	0998
		TS-352/U	972	65092	MULTIMETER	032	B	0999
		TS-352B/U		77221	MULTIMETER	032	B	1000
		TS-443/U	1	65092	VOLTMETER	077	B	1021
		TS-505/U	123		MULTIMETER	032	B	1035
		TS-505A/U	PL3000	77221	MULTIMETER	032	B	1036
		TS-505B/U	D11700	94066	MULTIMETER	032	B	1037
		TS-505C/U			MULTIMETER	032	B	1038
		TS-5050/U			MULTIMETER	032	B	1039
		TS-505E/U	EAO-197/129	02581	MULTIMETER	032	B	1040
		TS-B16/U	KS-14103	64959	T S TELEPHONE	118	B	1115
NOISE GENERATOR, TWELVE CHANN	59	FUNCTIONALLY COMPATIBLE						
		SG-1114/U	TM-7B16	09553	GENERATOR INTERFERENCE	034	C	1923
		SG-1114/U	TM-7B16A	09553	TWELVE CHANNEL NOISE GENERATOR	034	C	1922
NOISE POWER RATIO TEST SET	58	FUNCTIONALLY COMPATIBLE						
		AN/GSM-161	0A2090	09553	T S NOISE LOADING	034	C	0208
		AN/GSM-161A	0A2090A	09553	T S NOISE LOADING	034	C	0209
		O-1321/GSM	TM7794/4	09553	OSCILLATOR RF	034	C	1921



## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SREC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
NOISE POWER RATIO TEST SET	58	PARTIALLY COMPATIBLE						
		PL-1244/U	1402	27591	GENERATOR SIGNAL	055	A	1835
OHMMETER	30	FUNCTIONALLY COMPATIBLE						
			362	55026	OHMMETER	035	B	1347
		PARTIALLY COMPATIBLE						
			B-2500	00426	T S INSULATION BREAKDOWN	025	B	1288
			MIL-T-10314	65092	T S OHMMETER	035	B	1990
			RO-152	80740	METER PH	035	B	2172
			1050	28009	WHEATSTONE BRIDGE	008	B	1926
			1104118-1	18876	OHMMETER LOW RESISTANCE	035	B	2058
			617	54294	BRIDGE RESISTANCE	035	B	1959
			72-439	07239	KELVIN BRIDGE	035	B	1320
		ME-368/U	610	96332	OHMMETER	035	B	0703
		ZM-54/U	LRO-1	05721	OHMMETER	035	B	1282
OHMMETER, EARTH TESTER	31	FUNCTIONALLY COMPATIBLE						
			280	04237	TESTER GROUND RESISTANCE	035	B	1339
		TS-3221/U	63220	07239	T S NULL BALANCE EARTH TESTER	035	B	1237
		PARTIALLY COMPATIBLE						
			B-2500	00426	T S INSULATION BREAKDOWN	025	B	1288
			RO-152	80740	METER PH	035	B	2172
			255	04237	VIBROGROUND	035	B	2004
			617	54294	BRIDGE RESISTANCE	035	B	1959
			72-439	07239	KELVIN BRIDGE	035	B	1320
OPTICAL TEST SET	50	PARTIALLY COMPATIBLE						
			K221	34228	AUTOCOLLIMATOR	119	E	3271
			1415-U8	92434	METER SPOT BRIGHTNESS	119	E	1716
OSCILLOGRAPHIC RECORDER A	91	FUNCTIONALLY COMPATIBLE						
			AW-55-65C	72264	RECORDER FREQUENCY	064	E	1540
			AW-60-400C	72264	VOLTMETER GRAPHIC	064	E	1541
			322A	15859	OSCILLOGRAPH	036	E	1536
			680	28480	RECORDER COORDINATE DATA SPIR CHAR	064	E	3369
		AM-6681(V)1/U	BB08A	28480	P I RECORDER	036	E	1461
		AN/USM-46	8L-202-931	96795	OSCILLOGRAPH SET MAGNETIC	036	E	0425
		RO-425/U	322	28480	RECORDER DUAL CHANNEL	064	E	0815



## PART I TMDE CROSS-REFERENCE LIST

06/22/78

DTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

DTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE IO NO.
OSCILLOGRAPHIC RECORDER A	51	FUNCTIONALLY COMPATIBLE						
		RD-460(V)1/U	77028	28480	RECORDER DUAL CHANNEL	036	E	0816
		TS-5848/U	AW SERIES 400	72264	MILLIAMMETER RECORDER	064	E	1052
		PARTIALLY COMPATIBLE						
			LAV8600	15566	VOLTMETER RECORDING AC	064	E	1988
			906	28009	VISICORDER OSCILLOGRAPH RECORDER	036	E	3648
			906A	72264	OSCILLOGRAPH RECORDER	036	E	1550
		AN/USM-365(V)1	77068/OPT14	28480	RECORDER THERMAL OSCILLOGRAPH	036	E	0539
		IM-156-1008N-2		15859	OSCILLOGRAPH	036	E	1549
		PL-1306A/U	8803A	28480	P I PREAMPLIFIER	036	E	3732
		PL-1390/U	8801A	28480	P I PREAMPLIFIER LOW GAIN DC	036	E	1459
		RD-426/U	7418A	28480	OSCILLOGRAPHIC RECORDER	036	E	1547
		RD-49/U	AW	72264	RECORDER MILLIAMMETER	064	E	0812
		RD-189/G	RD2642-00	96795	OSCILLOGRAPH	036	E	0813
OSCILLOGRAPHIC RECORDER B	52	FUNCTIONALLY COMPATIBLE						
			RD25522-2D	96795	RECORDER DUAL CHANNEL	036	E	1553
		AN/USM-365(V)1	77068/OPT14	28480	RECORDER THERMAL OSCILLOGRAPH	036	E	0539
		PD-426/U	7418A	28480	OSCILLOGRAPHIC RECORDER	036	E	1547
		RD-189/G	RD2642-00	96795	OSCILLOGRAPH	036	E	0813
		PARTIALLY COMPATIBLE						
			AW-55-65C	72264	RECORDER FREQUENCY	064	E	1540
			AW-6D-400C	72264	VOLTMETER GRAPHIC	064	E	1541
			LAV8600	15566	VOLTMETER RECORDING AC	064	E	1988
			322A	15859	OSCILLOGRAPH	036	E	1536
			680	28480	RECORDER COORDINATE DATA STRIP CHAR	064	E	3369
			906	28009	VISICORDER OSCILLOGRAPH RECORDER	036	E	3648
			906A	72264	OSCILLOGRAPH RECORDER	036	E	1550
		AM-6681(V)1/U	8808A	28480	P I RECORDER	036	F	1451
		IM-156-1008N-2		15859	OSCILLOGRAPH	036	E	1549
		PL-1306A/U	8803A	28480	P I PREAMPLIFIER	036	E	3732
		PL-1390/U	8801A	28480	P I PREAMPLIFIER LOW GAIN DC	036	E	1459
		RD-49/U	AW	72264	RECORDER MILLIAMMETER	064	E	0812
		RD-425/U	322	28480	RECORDER DUAL CHANNEL	064	E	0815
		RD-460(V)1/U	77028	28480	RECORDER DUAL CHANNEL	036	E	0816
		TS-5848/U	AW SERIES 400	72264	MILLIAMMETER RECORDER	064	E	1052

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

DTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

DTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
PHASE JITTER METER	78	FUNCTIONALLY COMPATIBLE						
			DA 410	65092	ANALYZER TRANSFER FUNCTION	037	O	1546
			TTI-1200	50137	T S PHASE JITTER	037	O	2366
			1201A	50137	MONITOR HIT	037	O	2223
		ME-490/U	48 (A3)	50319	METER PHASE JITTER	037	O	1629
PHASE METER	60	FUNCTIONALLY COMPATIBLE						
			202-1	90101	METER PHASE	038	C	1526
			250	05606	INDICATOR PHASE ANGLE	038	C	1530
			3575A	28480	GAIN/PHASE METER	038	C	1488
			740	23338	METER PHASE ANGLE	038	C	1514
		PARTIALLY COMPATIBLE						
			W-3		ANALYZER IMPEOANCE COMPONENT	038	C	1560
POWER METER, RF	61	FUNCTIONALLY COMPATIBLE						
			61	70998	WATTMETER RF THERMALINE	040	C	1764
			611	70998	WATTMETER RF ABSORPTION	040	C	1745
			612	70998	WATTMETER RADIO FREQ	040	C	1746
		AN/URM-182	4110-102	70998	T S RADIO FREQ POWER	040	C	0405
		AN/URM-43	61	70998	RF WATTMETER	040	C	3637
		AN/URM-43A		91161	RF WATTMETER	040	C	3608
		ME-11/U	750-3	70998	WATTMETER RF	040	C	0648
		ME-11A/U		91161	WATTMETER RF	040	C	0649
		ME-118/U		02230	WATTMETER RF	040	C	0650
		MF-11C/U		91161	WATTMETER RF	040	C	0651
		MF-162/U	432	65092	WATTMETER	039	C	0680
		MF-69/U	6151-000	70998	WATTMETER	040	C	3625
		ME-82/U	MM-265	65092	WATTMETER	040	C	0674
		TS-118/AP		70998	T S WATTMETER	040	C	0960
		TS-118A/AP	693011	70998	RADIO FREQ WATTMETER	040	C	0961
		TS-2609/U	4110-000	70998	T S RADIO FREQ POWER	040	C	1199
		TS-2609A/U	4110-000	70998	T S RADIO FREQ POWER	040	C	1200
		TS-730/URM	57-560-1	01723	BRIDGE SUMMATION	040	C	1097
		PARTIALLY COMPATIBLE						
			1223	94668	METER POWER	040	C	3647
			164A	94668	WATTMETER	082	C	1767
			310	65092	WATTMETER	039	C	1771
			89008	28480	CALIBRATOR PEAK POWER	040	C	2579
		AN/URM-86	67C	70998	WATTMETER	040	C	0373
		AN/URM-86A	6733-00	70998	WATTMETER	040	C	0374

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFP. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE ID NO.
POWER METER, PF	61	PARTIALLY COMPATIBLE						
		AN/USM-161	457	11332	T S RADIO FREQ POWER	040	C	0452
		AN/USM-260	431C	28480	T S RADIO FREQ POWER	041	C	0493
		ME-6/U	300A	50423	VOLTMETER ELEC	076	8	0647
POWER METER, RF IN-LINE	62	FUNCTIONALLY COMPATIBLE						
			1223	94668	METER POWER	040	C	3647
			164A	94668	WATTMETER	082	C	1767
		AN/URM-120	SK13009-4	54778	WATTMETER	082	C	0391
		AN/URM-86	67C	70998	WATTMETER	040	C	0373
		AN/URM-86A	6733-00	70998	WATTMETER	040	C	0374
		ME-165/G	52-500	12991	STANDING WAVE RATIO POWER METER	063	C	0681
		TS-1285/URM-120	164FMN	94668	WATTMETER	082	C	1138
		PARTIALLY COMPATIBLE						
			310	65092	WATTMETER	039	C	1771
		AN/URM-167	6151A	70998	T S RF POWER	040	C	0399
		AN/USM-298	43	70998	T S RADIO FREQ POWER	082	C	0512
		ME-441/U	432A	28480	METER POWER	041	C	0707
POWER METER, SHF	63	FUNCTIONALLY COMPATIBLE						
			430B	28480	METER POWER	041	C	1728
			432A	28480	METER POWER	041	C	1729
			432B	28480	METER POWER	041	C	1730
			435A	28480	METER POWER	041	C	1732
			454A	11332	POWER METER RADIO FREQ	041	C	3678
		AN/URM-988	430CW/477	28480	WATTMETER	040	C	0380
		AN/USM-193	431B	28480	RADIO FREQUENCY POWER T S	041	C	3677
		AN/USM-260	431C	28480	T S RADIO FREQ POWER	041	C	0493
		ME-441/U	432A	28480	METER POWER	041	C	0707
		ME-51/UP	GS-15094	65092	T S FREQ COUNTER	041	C	0652
		PARTIALLY COMPATIBLE						
			450	11332	WATTMETER	041	C	1734
			89008	28480	CALIBRATOR PEAK POWER	040	C	2579
		AN/URM-167	6151A	70998	T S RF POWER	040	C	0399
		AN/USM-161	457	11332	T S RADIO FREQ POWER	040	C	0452
		TS-125/AP		82057	T S RADIO FREQ POWER	040	C	0962

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

QTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

QTS ETE SPECIFICATION NAME	SPEC ND	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE ID NO.
Q-METER	53	FUNCTIONALLY COMPATIBLE						
		TS-617/U	1604	04901	METER Q	042	E	1063
		TS-617B/U	TS617	51865	METER Q	042	E	1064
		TS-617C/U		51865	Q METER	042	E	1055
		PARTIALLY COMPATIBLE						
			TF-1245	09553	Q METER	042	E	1558
			190A	28480	Q METER	042	E	1525
			260-A	04901	Q METER	042	E	1531
SEMICONDUCTOR TEST SET	94	FUNCTIONALLY COMPATIBLE						
			240	93346	T S SEMICONDUCTOR	045	E	2508
			300	96641	T S SEMICONDUCTOR DEVICE	045	E	3051
			650	55026	TESTER TRANSISTOR	045	E	2516
			870	28569	TESTER TRANSISTOR AND DIODE	045	E	2518
			890A	28569	TESTER TRANSISTOR	045	E	2519
		AN/USM-171		93346	IN CIRCUIT SEMICONDUCTOR TESTER	045	E	3615
		AN/USM-206	245MA	93346	T S SEMICONDUCTOR DEVICE	045	E	0472
		AN/USM-206A	902-470	28569	T S SEMICONDUCTOR DEVICE	045	E	0473
		TS-1100/U		94668	T S SEMICONDUCTOR DEVICE	045	E	1131
		TS-1100A/U		93346	T S SEMICONDUCTOR DEVICE	045	E	1132
		TS-1836/U	219B	94668	T S TRANSISTOR	045	E	1158
		TS-1836A/U	219C	24624	T S TRANSISTOR	045	F	1169
		TS-1836B/U	245MF	24624	T S SEMICONDUCTOR DEVICE	045	E	1170
		TS-1836C/U		34639	T S SEMICONDUCTOR DEVICE	045	E	1171
		TS-1836D/U		8005R	T S SEMICONDUCTOR DEVICE	045	E	3716
		TS-2086/U	TT-22	14558	T S TRANSISTOR	045	E	1193
		TS-268/U	TMN-10RL	80077	T S CRYSTAL RECTIFIER	045	E	0988
		TS-268A/U	C11603A	80077	T S CRYSTAL RECTIFIER	045	E	0989
		TS-268B/U	C11603A	80077	T S CRYSTAL RECTIFIER	045	E	0990
		TS-268C/U		74096	T S CRYSTAL RECTIFIER	045	E	0991
		TS-268D/U	J-105	82854	T S CRYSTAL RECTIFIER	045	E	0992
		TS-268E/U	TS-268	94518	T S CRYSTAL RECTIFIER	045	E	0993
		PARTIALLY COMPATIBLE						
			K18		TESTER TUBE CONTRAST TRSF	072	B	2547
			575	80009	OSCILLOSCOPE TRANSISTOR CURVETRACER	045	E	2514
			576	80009	TRACEP SEMICONDUCTOR CURVE	045	E	2515
			7620	92860	T S SEMICONDUCTOR DEVICE	045	E	2696

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTP	TMDE ID NO.
SIGNAL GENERATOR, HF	3		FUNCTIONALLY COMPATIBLE					
			M184-4	16469	GENERATOR SIGNAL	051	A	3276
			10046503	18876	OSCILLATOR RADIO FREQUENCY	051	A	1597
			10182039	04164	GENERATOR SIGNAL	051	A	2095
		AN/URM-103	SM-0-630500	82199	GENERATOR SIGNAL	051	A	0384
			PARTIALLY COMPATIBLE					
			BC-376M	94486	GENERATOR SIGNAL	106	A	2349
			F53A	07421	GENERATOR SIGNAL	006	A	1599
			M5-X8	04423	GENERATOR DUAL SIGNAL	048	A	1911
			1003	24655	GENERATOR SIGNAL	051	A	1652
			13108	24655	OSCILLATOR	006	A	1656
			1344	21461	OSCILLATOR AUDIO RF	006	A	3341
			190A	80009	GENERATOR SIGNAL	051	A	1632
			1908	80009	GENERATOR SINE WAVE	051	A	1897
			2028	28480	CONVERTER FREQ	051	A	1769
			5105A/5110B	28480	SYNTHESIZER FREQ	106	A	1846
			5110B	28480	SYNTHESIZER DRIVER	051	A	1847
			606B	28480	GENERATOR SIGNAL	051	A	1643
			739AR	28480	T S FREQ RESPONSE	051	A	1871
			7808	77327	GENERATOR SIGNAL AM/FM	052	A	1684
			8660B-001	28480	SYNTHESIZED SIGNAL GENERATOR	107	A	2073
			86601A	28480	RF SECTION	051	A	2089
			86602B	28480	P I UNIT RF SECTION	051	A	3587
			8708A	28480	GENERATOR SIGNAL P I SYNCHRONIZER	106	A	2081
		AN/GPM-15		82076	GENERATOR SIGNAL	050	A	0159
		AN/GPM-15A	CA-748	82076	GENERATOR SIGNAL	050	A	0160
		AN/GPM-50	606A	28480	GENERATOR SIGNAL	051	A	0174
		AN/GPM-50A	11507A	28480	GENERATOR SIGNAL	051	A	0175
		AN/GPM-50B	606A-C15	28480	GENERATOR SIGNAL	051	A	0176
		AN/GPM-50C	921A	33013	GENERATOR SIGNAL	051	A	0177
		AN/URM-25B0	315	21900	GENERATOR SIGNAL	051	A	0341
		AN/URM-25F	162-0-003	92428	GENERATOR SIGNAL	051	A	0342
		AN/URM-25H	152-2-6-1	66150	GENERATOR SIGNAL	051	A	0343
		AN/URM-25J		26648	GENERATOR SIGNAL	051	A	0344
		AN/URM-93	245-A	04901	VOLTAGE STANDARDS RADIO FREQ	051	A	0377
		AN/URM-93A	245-0	04901	VOLTAGE STANDARDS RADIO FREQ	051	A	0378
		AN/USM-205	650A	28480	GENERATOR SIGNAL	006	A	0469
		AN/USM-205A	6205-1	25778	GENERATOR SIGNAL	006	A	0470
		AN/USM-212	758-0047-001	13499	GENERATOR SIGNAL	051	A	0476
		AN/USM-269	1310-A	24655	GENERATOR SIGNAL	006	A	0498
		AN/USM-272	191	80009	GENERATOR SIGNAL	051	A	0501
		AN/USM-313	1211C	24655	GENERATOR SIGNAL	106	A	0523
		BC-376		80063	GENERATOR SIGNAL	106	A	0546
		CP-1100/U	51008/5110B	28480	COUNTER ELEC DIGITAL	051	A	0550

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE ID NO.
SIGNAL GENERATOR, HF	3	PARTIALLY COMPATIBLE						
		SG-1038/U	3701A	28480	GENERATOR SIGNAL	106	A	0894
		SG-12/U		15196	GENERATOR SIGNAL	106	A	0822
		SG-20/U	658	14140	SIGNAL GENERATOR	051	A	0825
		SG-479/GRM-50	606A	28480	GENERATOR SIGNAL	051	A	0856
		SG-511/U	606A	28480	GENERATOR SIGNAL HF	051	A	0858
SIGNAL GENERATOR, SHF A	5	FUNCTIONALLY COMPATIBLE						
			6168	28480	GENERATOR SIGNAL	053	A	1644
		AN/URM-61A	C-0-153-03007	99180	GENERATOR SIGNAL	053	A	0362
		TS-4038/U	0-0153-03006	11242	GENERATOR SIGNAL	053	A	1010
		TS-4038/U	0-0153-03006	11242	GENERATOR SIGNAL	107	A	1011
		PARTIALLY COMPATIBLE						
			CX-7006	77327	GENERATOR SIGNAL P I	053	A	3265
			U661159	77327	MULTIPLIER FREQ	053	A	3317
			2650A	28480	OSCILLATOR SYNCHRONIZER	053	A	1667
		AN/USM-315	8616A	28480	SIGNAL GENERATOR	053	A	0527
		TS-419/U	H-12		GENERATOR SIGNAL	107	A	1012
SIGNAL GENERATOR, SHF B	6	FUNCTIONALLY COMPATIBLE						
			6188R	28480	GENERATOR SIGNAL	053	A	1864
			618C	28480	GENERATOR SIGNAL	053	A	1645
		AN/URM-170	618C	28480	GENERATOR SIGNAL	053	A	0400
		AN/URM-52	6188F106	28480	GENERATOR SIGNAL	053	A	0358
		AN/URM-52A	6188-E-118	28480	GENERATOR SIGNAL	053	A	0359
		AN/URM-528	C-674-100	D2572	GENERATOR SIGNAL	053	A	0360
		SG-676/G	1220-A5	24655	GENERATOR SIGNAL	053	A	0868
		PARTIALLY COMPATIBLE						
			CX-7006	77327	GENERATOR SIGNAL P I	053	A	3265
			U661159	77327	MULTIPLIER FREQ	053	A	3317
			1107	82199	GENERATOR MODULAR MICROWAVE SIGNAL	053	A	1826
			2650A	28480	OSCILLATOR SYNCHRONIZER	053	A	1667
			6168	28480	GENERATOR SIGNAL	053	A	1644
		AN/USM-315	8616A	28480	SIGNAL GENERATOR	053	A	0527

## PART. I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE ID NO.
SIGNAL GENERATOR, SHF C.	7	FUNCTIONALLY COMPATIBLE						
		AN/USM-190	6204R-H01	28480	GENERATOR SIGNAL	053	A	0465
		SG-944/U	6208	28480	GENERATOR SIGNAL	053	A	0882
		PARTIALLY COMPATIBLE						
			U661159	77327	MULTIPLIER FREQ	053	A	3317
			1107	82199	GENERATOR MODULAR MICROWAVE SIGNAL	053	A	1826
SIGNAL GENERATOR, SHF D	8	FUNCTIONALLY COMPATIBLE						
			1709A	82199	SIGNAL GENERATOR	053	A	1836
		PARTIALLY COMPATIBLE						
			K661159	77327	MULTIPLIER FREQ	053	A	3274
SIGNAL GENERATOR, SHF E	9	FUNCTIONALLY COMPATIBLE						
			1710A	82199	SIGNAL GENERATOR	053	A	1837
		AN/USM-48	628A	28480	GENERATOR SIGNAL	053	E	0426
		PARTIALLY COMPATIBLE						
			K661159	77327	MULTIPLIER FREQ	053	A	3274
SIGNAL GENERATOR, SHF G	11	FUNCTIONALLY COMPATIBLE						
			A661159	77327	MULTIPLIER FREQ	053	A	3247
			S7006	77327	GENERATOR SIGNAL P I	053	A	3290
		PARTIALLY COMPATIBLE						
			A7006	77327	GENERATOR SIGNAL P I	053	A	3246
SIGNAL GENERATOR, SHF H	12	FUNCTIONALLY COMPATIBLE						
			CX-7006	77327	GENERATOR SIGNAL P I	053	A	3255
			K661159	77327	MULTIPLIER FREQ	053	A	3274
			U661159	77327	MULTIPLIER FREQ	053	A	3317
		AN/USM-315	8616A	28480	SIGNAL GENERATOR	053	A	0527



## PART I TMDE CROSS-REFERENCE LIST

06/22/78

QTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDF

QTS ETE SPECIFICATION NAME	SREC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE ID NO.
SIGNAL GENERATOR, SHF H	12	PARTIALLY COMPATIBLE						
			2650A	28480	OSCILLATOR SYNCHRONIZER	053	A	1667
			6188R	28480	GENERATOR SIGNAL	053	A	1864
			618C	28480	GENERATOR SIGNAL	053	A	1645
		AN/URM-52	6188E106	28480	GENERATOR SIGNAL	053	A	0358
		AN/URM-52A	6188E-118	28480	GENERATOR SIGNAL	053	A	0359
		AN/URM-528	C-674-100	02572	GENERATOR SIGNAL	053	A	0360
		AN/URM-61A	C-0-153-03007	99180	GENERATOR SIGNAL	053	A	0362
		AN/USM-190	620AR-H01	28480	GENERATOR SIGNAL	053	A	0455
		AN/USM-48	628A	28480	GENERATOR SIGNAL	053	E	0426
		TS-4038/U	D-0153-03006	11242	GENERATOR SIGNAL	107	A	1011
		TS-4038/U	D-0153-03006	11242	GENERATOR SIGNAL	053	A	1010
SIGNAL GENERATOR, THER NOISEA	13	FUNCTIONALLY COMPATIBLE						
			H347A	28480	NOISE SOURCE	055	A	1937
			P347A	28480	GENERATOR THERMAL NOISE	055	A	1913
			X347A	28480	NOISE SOURCE	055	A	1877
			10182651	04164	GENERATOR THERMAL NOISE	055	A	2096
			344A	28480	METER NOISE FIGURE	033	C	1725
			904A	77327	GENERATOR NOISE	055	A	1873
		SG-1018/U	J347A	28480	NOISE SOURCE	055	C	0892
		SG-419/U	503	11332	GENERATOR THERMAL NOISE	055	A	0854
		SG-678/G	G347A	28480	NOISE SOURCE	055	A	3541
		SG-978/U	343A	28480	GENERATOR SOURCE	055	A	0886
		SG-979/U	349A	28480	NOISE SOURCE	055	A	0887
		SG-996/U	3458	28480	NOISE SOURCE	055	A	0471
		TS-2436/G	342A	28480	T S AMP	033	C	1197
		PARTIALLY COMPATIBLE						
			1G115	03782	MICROWAVE IMPULSE SOURCE	012	A	1878
			3408	28480	METER NOISE FIGURE	033	C	1774
		SG-337/U	51U-ARGON	80138	GENERATOR THERMAL NOISE	055	A	0848
SIGNAL GENERATOR, THER NOISEB	14	FUNCTIONALLY COMPATIBLE						
			TTS-56	06819	GENERATOR NOISE	055	A	1924
		SG-4538/U	1390A	24655	GENERATOR THERMAL NOISE	055	A	1833
		SG-827/U	13908	24655	GENERATOR RANDOM NOISE	055	A	1834

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

## OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE ID NO.
SIGNAL GENERATOR, THER NOISE	14	PARTIALLY COMPATIBLE						
			1G115	03782	MICROWAVE IMPULSE SOURCE	012	A	1878
			3403	28480	METER NOISE FIGURE	033	C	1774
SIGNAL GENERATOR, TRACKING	64	FUNCTIONALLY COMPATIBLE						
			SG-1122/U	28480	TRACKING GENERATOR/COUNTER	056	C	3585
			SG-1125/U	28480	GENERATOR, TRACKING	056	C	1690
		PARTIALLY COMPATIBLE						
			305	94668	COMM TRANSMISSION MEASUREMENT SYSTE	110	C	2433
			305A	94668	TRANSMISSION MEASUREMENT SYSTEM	110	C	2380
			313A	28480	OSCILLATOR TRACKING	056	C	1640
SIGNAL GENERATOR, UHF A	15	FUNCTIONALLY COMPATIBLE						
			W187-4	16469	GENERATOR RF POWER P I	107	A	3279
			P7006	77327	GENERATOR SIGNAL P I	107	A	3283
		PARTIALLY COMPATIBLE						
			4704-1000	94668	GENERATOR SIGNAL	107	A	1642
			86608-001	28480	SYNTHESIZED SIGNAL GENERATOR	107	A	2073
			86602A	28480	PF SECTION	107	A	2090
			86602B	28480	P I UNIT RF SECTION	051	A	3587
			86631B	28480	AUXILIARY SECTION	107	A	2091
			86632A	28480	MODULATION SECTION	107	A	2092
		AN/URM-149	SM-0-630000	82199	GENERATOR SIGNAL	107	A	0396
		AN/URM-49		35225	GENERATOR SIGNAL	107	A	0356
		AN/URM-49A	K00300149	35225	GENERATOR SIGNAL	107	A	0357
		AN/URM-56	9008	01113	GENERATOR SIGNAL	107	A	0361
		AN/URM-64-1		76809	GENERATOR SIGNAL	107	A	0363
		AN/URM-64-2		76809	GENERATOR SIGNAL	107	A	0364
		AN/URM-64A-1	C-016-04001	03877	GENERATOR SIGNAL	107	A	0365
		AN/URM-64A-2	C-0161-04001	03877	GENERATOR SIGNAL	107	A	0366
		AN/USM-213	8614A	28480	GENERATOR SIGNAL	107	A	0477
		AN/USM-213A	8614B	28480	GENERATOR SIGNAL	107	A	0478
		AN/USM-251	1209C	24655	GENERATOR SIGNAL	107	A	0758
		AN/USM-312	1362	24655	GENERATOR SIGNAL	107	A	0522
		SG-340A/U	612A	28480	GENERATOR SIGNAL	107	A	0849
		SG-97/FRC	614A	28480	GENERATOR SIGNAL	107	A	0837
		TS-419/U	H-12		GENERATOR SIGNAL	107	A	1012

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SREC NO	TYPE DESIGNATOR	MFP. MODEL NO.	MFP. CODE	NOMENCLATURE	FAMILY CODE	GP LTP	TMDE IO NO.
SIGNAL GENERATOR, VHF A	17	FUNCTIONALLY COMPATIBLE						
		AN/USM-448	6080-E02	28480	GENERATOR SIGNAL	106	A	0423
		PARTIALLY COMPATIBLE						
			M184-4	16469	GENERATOR SIGNAL	051	A	3276
			10046503	18876	OSCILLATOR RADIO FREQUENCY	051	A	1597
			470A-1000	94668	GENERATOR SIGNAL	107	A	1642
			5105A/5110B	28480	SYNTHESIZER FREQ	106	A	1846
			6068	28480	GENERATOR SIGNAL	051	A	1643
			750-S138	33013	GENERATOR SIGNAL	106	A	1872
			8640A	28480	GENERATOR SIGNAL	106	A	1591
			8640B	28480	GENERATOR SIGNAL AM-FM	106	A	2071
			8640B-001	28480	GENERATOR SIGNAL	106	A	1593
			8660B-001	28480	SYNTHESIZED SIGNAL GENERATOR	107	A	2073
			86601A	28480	PF SECTION	051	A	2089
			8708A	28480	GENERATOR SIGNAL P T SYNCHRONIZER	106	A	2081
		AN/ARM-26C	100190	87793	GENERATOR SIGNAL	106	A	0109
		AN/GPM-50	606A	28480	GENERATOR SIGNAL	051	A	0174
		AN/GRM-50A	11507A	28480	GENERATOR SIGNAL	051	A	0175
		AN/GRM-50B	606A-C15	28480	GENERATOR SIGNAL	051	A	0176
		AN/GPM-50C	921A	33013	GENERATOR SIGNAL	051	A	0177
		AN/URM-49		35225	GENERATOR SIGNAL	107	A	0356
		AN/LRM-49A	K00000149	35225	GENERATOR SIGNAL	107	A	0357
		AN/URM-56	9008	01113	GENERATOR SIGNAL	107	A	0361
		AN/URM-93	245-A	04901	VOLTAGE STANDARD RADIO FREQ	051	A	0377
		AN/URM-93A	245-D	04901	VOLTAGE STANDARD RADIO FREQ	051	A	0378
		AN/LSM-251	1209C	24655	GENERATOR SIGNAL	107	A	0758
		AN/LSM-272	191	80009	GENERATOR SIGNAL	051	A	0501
		AN/USM-312	1362	24655	GENERATOR SIGNAL	107	A	0522
		AN/USM-313	1211C	24655	GENERATOR SIGNAL	106	A	0523
		CP-1100/U	51008/51108	28480	COUNTER FREQ DIGITAL	051	A	0550
		SG-340A/U	612A	28480	GENERATOR SIGNAL	107	A	0849
		TS-4520/U		36004	GENERATOR SIGNAL	052	A	1027
		TS-497/URR			GENERATOR SIGNAL	106	A	1031
		TS-497A/URP			GENERATOR SIGNAL	106	A	1032
		TS-497B/URR			GENERATOR SIGNAL	106	A	1033
		TS-497B/URR	SM-8-334504	04423	GENERATOR SIGNAL	106	A	1034
SPECTRUM ANALYZER, AUDIO	65	FUNCTIONALLY COMPATIBLE						
			1558A	24655	ANALYZER NOISE AUDIO FREQUENCY	059	C	1651
			3570A-101	28480	NETWORK ANALYZER	059	C	1659
		AN/GSH-13			SPECTRUM ANALYZER	059	C	3650
		AN/GSH-15			SPECTRUM ANALYZER	059	C	3651
		TS-3628(V)1/U	3580A	28480	SPECTRUM ANALYZER	059	C	1670

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS EYE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS EYE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFP. MODEL NO.	MFP. CODE	NOMENCLATURE	FAMILY CODE	GP LTP	TMOE IO NO.
SPECTRUM ANALYZER, AUDIO	65	FUNCTIONALLY COMPATIBLE						
		TS-615/U	736A	24655	ANALYZER SOUND	059	C	1060
		TS-615A/U	300A	28480	ANALYZER SPECTRUM	059	C	1061
		TS-615B/U	300A	28480	ANALYZER SPECTRUM	059	C	1062
		PARTIALLY COMPATIBLE						
		SPA-1 STYLE D		03782	ANALYZER SPECTRUM	061	C	1698
		3591A		28480	VOLTMETER FREQ SELECTIVE	110	C	1947
		3594A		28480	OSCILLATOR SWEEPING LOCAL PLUG IN	059	C	1671
		AN/USM-424	3040A	28480	ANALYZER	059	C	1668
		PL-1387/U	8556A	28480	ANALYZER SPECTRUM LF TUNING SECTION	081	A	2692
		TS-1830A/U	302A	28480	ANALYZER SPECTRUM	059	C	1166
		TS-1830D/U	302AP	28480	ANALYZER SPECTRUM	059	C	1157
SPECTRUM ANALYZER, BASEBAND	66	FUNCTIONALLY COMPATIBLE						
		TS-1871/FPN	LCA-1	06181	ANALYZER SPECTRUM	060	C	3737
		TS-2333/USM	310A	28480	ANALYZER SPECTRUM	060	C	1192
		TS-3150/U	PTAG/UP3P3	03782	ANALYZER SPECTRUM	060	C	1222
		TS-3170A/U	360B	94668	ANALYZER SPECTRUM	060	C	3352
		PARTIALLY COMPATIBLE						
		305		94668	COMM TRANSMISSION MEASUREMENT SYSTEM	110	C	2433
		305A		94668	TRANSMISSION MEASUREMENT SYSTEM	110	C	2380
		8553A		28480	ANALYZER SPECTRUM	061	C	1695
		AN/USM-424	3040A	28480	ANALYZER	059	C	1668
		PL-1387/U	8556A	28480	ANALYZER SPECTRUM LF TUNING SECTION	081	A	2692
		TS-1830A/U	302A	28480	ANALYZER SPECTRUM	059	C	1166
		TS-1830D/U	302AR	28480	ANALYZER SPECTRUM	059	C	1167
SPECTRUM ANALYZER, PF	67	FUNCTIONALLY COMPATIBLE						
		PSA-231		23369	ANALYZER SPECTRUM PLUG IN	061	C	1693
		SA70A		03782	ANALYZER SPECTRUM	061	C	1695
		SPA 325A		03782	ANALYZER SPECTRUM	061	C	1699
		1110		80009	ANALYZER SPECTRUM PLUG IN	061	C	1617
		7113		80009	ANALYZER SPECTRUM	061	C	1627
		8552A		28480	ANALYZER SPECTRUM IF SECTION PI	061	C	1693
		8553A		28480	ANALYZER SPECTRUM	061	C	1695
		8554B		28480	SPECTRUM ANALYZER PF SECTION	061	C	1697
		8554L		28480	ANALYZER SPECTRUM TUNING SECTION	061	C	1698
		8554L-H06 8522A		28480	ANALYZER SPECTRUM PLUG-IN	061	C	1600
		IP-173/U	S8-8	03782	INDICATOR PANORAMIC	061	C	0598
		IP-173A/U	S8-8A	03782	INDICATOR PANORAMIC	061	C	0599

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTP	TMOE IO NO.
SPECTRUM ANALYZER, PF	67	FUNCTIONALLY COMPATIBLE						
		IP-1739/U	S8-8A	03782	INDICATOR PANORAMIC	061	C	0620
		IP-173C/U		03782	INDICATOR PANORAMIC	061	C	0582
		PL-1399/U	8553B	28480	ANALYZER SPECTRUM RF SECTION	061	C	1696
		TS-3237/U	725	06811	ANALYZER SPECTRUM	061	C	1238
		PARTIALLY COMPATIBLE						
		SPA-1 STYLE O		03782	ANALYZER SPECTRUM	061	C	1628
		3594A		28480	OSCILLATOR SWEEPING LOCAL PLUG IN	059	C	1671
		707-SI		12678	ANALYZER SPECTRUM	061	C	1649
		8407A		28480	ANALYZER NETWORK MAINFRAME	061	C	1685
		8412A		28480	DISPLAY PHASE-MAGNITUDE	061	C	1688
		8414A		28480	POLAR DISPLAY	062	C	1689
		AN/USM-366	491	80009	ANALYZER SPECTRUM	061	C	0540
		AN/USM-424	3040A	28480	ANALYZER	059	C	1658
		F-1414/U	8445B	28480	PRESELECTOR AUTOMATIC TRACKING	062	C	1692
		IP-1216(P)/GR	141T	28480	ANALYZER SPECTRUM DISPLAY SECTION	061	C	1699
		PL-1388/U	8552R/017	28480	ANALYZER SPECTRUM IF SECTION PI	061	C	1694
SPECTRUM ANALYZER, SHF	68	FUNCTIONALLY COMPATIBLE						
		P491		80009	ANALYZER SPECTRUM RACKMOUNTED	062	C	3284
		S884WA		82199	ANALYZER SPECTRUM	062	C	1626
		S87		03782	ANALYZER SPECTRUM	062	C	1607
		1L20		80009	ANALYZER SPECTRUM PLUG IN	062	C	1618
		707-SI		12678	ANALYZER SPECTRUM	061	C	1649
		8410S OPT 210		28480	ANALYZER MICROWAVE NETWORK	062	C	1686
		8410S OPT 310		28480	ANALYZER MICROWAVE NETWORK	062	C	1687
		851A/852A		28480	ANALYZER SPECTRUM	061	C	1650
		851A/8551A		28480	ANALYZER SPECTRUM	062	C	3760
		8552B/017		28480	ANALYZER SPECTRUM	062	C	3761
		LA18M		35225	ANALYZER SPECTRUM	061	C	0820
		AN/LPM-110	SC-DL-169906	80063	ANALYZER SPECTRUM	061	C	0324
		AN/LPM-58	8554L-H06 8552A	28480	ANALYZER SPECTRUM	061	C	0328
		AN/LPM-84		28480	ANALYZER NETWORK	062	C	0517
		AN/USM-307(V)		28480	ANALYZER NETWORK	062	C	0518
		AN/USM-307(V)1	8410A-E14	28480	ANALYZER NETWORK	061	C	0540
		AN/USM-366	491	80009	ANALYZER SPECTRUM	061	C	0540
		F-1414/U	8445B	28480	PRESELECTOR AUTOMATIC TRACKING	062	C	1692
		IP-1216(P)/GR	141T	28480	ANALYZER SPECTRUM DISPLAY SECTION	061	C	1699
		PL-1391/U	7L5	80009	SPECTRUM ANALYZER	059	C	1625
		PL-1392/U	7L12	80009	SPECTRUM ANALYZER PLUG IN	061	C	1626
		PL-1400/U	8555A	28480	SPECTRUM ANALYZER	062	C	3586
		TS-622/U	P-1265I	94486	GENERATOR SIGNAL	062	C	1056
		TS-6224/U	135-D-0500	77327	GENERATOR SIGNAL	062	C	1073

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GR LTR	TMDE ID NO.
SPECTRUM ANALYZER, SHF	68	PARTIALLY COMPATIBLE						
		AN/LPM-84A	8445A	28480	RESELECTION AUTOMATIC	062	C	1691
			AI52161	25778	ANALYZER SPECTRUM	061	C	0329
		IR-173/U	S8-8	03782	INDICATOR PANORAMIC	061	C	0598
		IP-173A/U	S8-8A	03782	INDICATOR PANORAMIC	061	C	0599
		IR-173B/U	S8-8A	03782	INDICATOR PANORAMIC	061	C	0630
		IP-173C/U		03782	INDICATOR PANORAMIC	061	C	0582
		TS-3237/U	725	06811	ANALYZER SPECTRUM	061	C	1238
STANDING WAVE RATIO (SWR) MET	69	FUNCTIONALLY COMPATIBLE						
			219	77327	DETECTOR VSWR	063	C	3349
			415-Y10F	28480	METER STANDING WAVE RATIO	063	C	3320
			416A	28480	INDICATOR STANDING WAVE RATIO	063	C	1349
		AN/URM-108	4158	28480	METER STANDING WAVE RATIO	063	C	1348
		AN/LSM-261	415E-ED7	28480	INDICATOR STANDING WAVE RATIO	063	C	0494
		AN/USM-322(V)1	219L	77327	DETECTOR STANDING WAVE	063	C	0530
		AN/USM-322(V)2	219	77327	DETECTOR STANDING WAVE	063	C	0531
		AN/USM-322(V)3	219-HH	77327	DETECTOR STANDING WAVE	063	C	0532
		AN/USM-37	415A	28480	MEASURING SET STANDING WAVE RATIO	063	C	0415
		AN/LSM-37A	415E	28480	MEASURING SET STANDING WAVE RATIO	063	C	0416
		AN/LSM-37B	809B	28480	MEASURING SET STANDING WAVE RATIO	063	C	0417
		AN/USM-37C			MEASURING SET STANDING WAVE RATIO	063	C	0418
		AN/USM-37D	415E-001	28480	MEASURING SET STANDING WAVE RATIO	063	C	0419
		AN/USM-37E	236	77327	MEASURING SET STANDING WAVE RATIO	063	C	0420
		IM-157/U	4158	28480	STANDING WAVE RATIO INDICATOR	063	C	0591
		IM-157B/U	415D	28480	INDICATOR STANDING WAVE RATIO	063	C	0593
		IM-157C/U	B813A		STANDING WAVE RATIO INDICATOR	063	C	0594
		IM-157E/U	227-D-S37	77327	STANDING WAVE RATIO INDICATOR	063	C	0595
		IM-175/U	351	11332	STANDING WAVE RATIO INDICATOR	063	C	0596
		ME-339/U	415E	28480	INDICATOR STANDING WAVE RATIO	063	C	0700
		PARTIALLY COMPATIBLE						
			SID-558220	92674	T S FILTER ANTENNA	063	C	1306
			SID558209	64959	T S SWR IMPEDANCE	063	C	3100
		IM-175B/U	351	11332	STANDING WAVE RATIO INDICATOR	063	C	0597
		ME-165/G	52-500	12991	STANDING WAVE RATIO POWER METER	063	C	0681
STROBOSCOPE	95	FUNCTIONALLY COMPATIBLE						
			1531A8	24655	TACHOMETER STROBOSCOPE	065	E	1717
			1538-A	24655	STROBOSCOPE	065	E	1718



## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFP. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE IO NO.
STROBOSCOPE	95	PARTIALLY COMPATIBLE						
		TS-805/U	631-B	24655	STROBOSCOPE	065	E	1108
		TS-805A/U	631-BL	24655	STROBOSCOPE	065	E	1109
		TS-805B/U	510AL	83490	STROBOSCOPE	065	E	1110
		TS-805C/U	451-AL	00708	STROBOSCOPE	065	E	1111
		TS-805D/U	510-B	83490	STROBOSCOPE	065	E	1112
SWEEP GENERATOR, AUDIO	19	FUNCTIONALLY COMPATIBLE						
		PL-1285/U	3305A	28480	SWEEP P I	081	A	0797
		TD-5033/USM	74-13A	30669	GENERATOR SWEEP	081	A	0948
		PARTIALLY COMPATIBLE						
			100A	80138	OSCILLATOR MEG A SWEEP	109	A	1882
			1120	04423	GENERATOR SWEEP	109	A	1886
			2000-1	04423	GENERATOR SWEEP	108	A	1839
			3308-501	28480	AUTOMATIC SYNTHESIZER	052	A	1843
		PL-1387/U	8556A	28480	ANALYZER SPECTRUM LF TUNING SECTION	081	A	2692
		SG-92/U	110-A	80138	GENERATOR SWEEP	052	A	0836
SWEEP GENERATOR, HF	20	FUNCTIONALLY COMPATIBLE						
			L5-XA	04423	GENERATOR SWEEP	108	A	1909
			8601A	28480	GENERATOR SWEEP	052	A	2069
		PL-12414/USM308	8698B	28480	P I UNIT ELEC TEST EQUIP	052	A	0794
		PL-12413/USM308	8698B-001	28480	RF P I SWEEP GENERATOR	052	A	3590
		TS-452/U		50304	GENERATOR SIGNAL	052	A	1023
		TS-452A/U		34184	GENERATOR SIGNAL	052	A	1024
		TS-452B/U		36004	GENERATOR SIGNAL	052	A	1025
		TS-452C/U		36004	GENERATOR SIGNAL	052	A	1026
		TS-452E/U			GENERATOR SIGNAL	052	A	1028
		PARTIALLY COMPATIBLE						
			100A	80138	OSCILLATOR MEG A SWEEP	109	A	1882
			1120	04423	GENERATOR SWEEP	109	A	1886
			2000-1	04423	GENERATOR SWEEP	108	A	1839
			3308-501	28480	AUTOMATIC SYNTHESIZER	052	A	1843
			8699A	28480	OSCILLATOR SWEEP	052	A	2074
		AN/USM-203	912-423	01113	GENERATOR SWEEP SIGNAL	109	A	0457
		AN/USM-203A	200-441	23042	GENERATOR SWEEP SIGNAL	109	A	0468
		SG-407/U	1000	80138	GENERATOR SWEEP	109	A	0853
		SG-575/U	TF866A	80138	GENERATOR SWEEP	108	A	0861
		SG-593/U	9008	01113	GENERATOR SWEEP	052	A	0863
		SG-681/U	866A	80138	GENERATOR SWEEP	052	A	0870



## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.	
SWEEP GENERATOR, HF	20	PARTIALLY COMPATIBLE							
		SG-888/U	200-315	23042	GENERATOR SWEEP	109	A	0881	
		SG-92/U	110-A	80138	GENERATOR SWEEP	052	A	0836	
		TS-452D/U		36004	GENERATOR SIGNAL	052	A	1027	
SWEEP GENERATOR, SHF	21	FUNCTIONALLY COMPATIBLE							
			404	92110	MICROWAVE SWEPT SIGNAL GENERATOR	049	A	1857	
			641B	03782	OSCILLATOR SWEEP	109	A	1646	
			641K	03782	GENERATOR SWEEP	109	A	1856	
			686A	28480	SWEEP OSCILLATOR	049	A	1859	
			694C	28480	OSCILLATOR SWEEP	049	A	1870	
			694C-H01	28480	OSCILLATOR SWEEP	049	A	1935	
			8620A	28480	SWEEP OSCILLATOR	049	A	2070	
			86230B CPT H80	28480	SINGLE BAND P I	049	A	2084	
			86241A OPT H80	28480	SINGLE BAND P I	049	A	2085	
			86242A OPT H80	28480	SINGLE BAND P I	049	A	2086	
			86250B CPT H80	28480	SINGLE BAND P I	049	A	2087	
			86260A OPT H80	28480	SINGLE BAND P I	049	A	2088	
			89038-H12	28480	OSCILLATOR SWEEP	049	A	1936	
		AN/USM-274	22D	18786	GENERATOR SWEEP	049	A	0533	
		AN/USM-308(V)1	86908-E75	28480	GENERATOR SWEEP	049	A	0519	
		AN/USM-47	626A	28480	GENERATOR SWEEP	049	A	1865	
		MX-83644/USM308	86908	28480	OSCILLATOR SWEEP	049	A	0756	
		PL-12401/USM308	86938-H01	28480	GENERATOR RF PLUG-IN	049	A	1904	
		PL-1243/USM-308	8706A	28480	ELEC TEST EQUIP P I UNIT	049	A	0796	
		PL-1304/USM-308	8694B	28480	P I UNIT ELEC TEST EQUIP	049	A	0831	
		SG-1121(V)1/U	8620C	28480	SWEEP OSCILLATOR	049	A	3714	
		SG-735/URM	8616A	28480	GENERATOR SIGNAL	049	A	3733	
		SG-987/U	6310BS1	03782	GENERATOR SWEEP	109	A	0890	
		SG-990/U	694D-H01	28480	GENERATOR SWEEP	049	A	0891	
			PARTIALLY COMPATIBLE						
				869DA	28480	OSCILLATOR SWEEP	052	A	2074
				8693A	28480	RF UNIT	049	A	2075
				8695A	28480	GENERATOR RF SWEEP P I	049	A	2077
				8696A	28480	GENERATOR SWEEP RF P I	049	A	2079
				8697A	28480	GENERATOR SWEEP RF P I	049	A	3589
		AN/USM-222	SM2000	04423	GENERATOR SIGNAL	109	A	0481	
		O-1637/U	E2M	04423	P I HEAD SWEEP GENERATOR	109	A	1901	
		PL-1242/USM-308	8599B	28480	OSCILLATOR SWEEP P I	049	A	0795	
		SG-407/U	1000	80138	GENERATOR SWEEP	109	A	0853	
SG-688P/USM-219	SM-2000	04423	GENERATOR SIGNAL	052	A	0871			

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GR LTR	TMDE IO NO.
SWEEP GENERATOR, UHF/VHF	22	FUNCTIONALLY COMPATIBLE						
			L5-XA-1	04423	GENERATOR SIGNAL	108	A	1910
			SH-1	04423	GENERATOR SWEEP	109	A	1916
			86220A	28480	SINGLE BAND R I	109	A	2083
			990J	01113	SWEEP SYSTEM TEST SFT	108	A	1596
		AN/USM-203	912-423	01113	GENERATOR SWEEP SIGNAL	109	A	0467
		AN/USM-203A	200-441	23042	GENERATOR SWEEP SIGNAL	109	A	0468
		AN/USM-220	SM2000	04423	GENERATOR SIGNAL	109	A	0479
		AN/USM-222	SM2000	04423	GENERATOR SIGNAL	109	A	0481
		SG-336/U	380-A	80138	GENERATOR SWEEP	108	A	0847
		SG-972/U	601	01113	GENERATOR SWEEP	108	A	0884
		PARTIALLY COMPATIBLE						
			L5-XA	04423	GENERATOR SWEEP	108	A	1909
			100A	80138	OSCILLATOR MEG A SWEEP	109	A	1882
			1120	04423	GENERATOR SWEEP	109	A	1886
			2000-1	04423	GENERATOR SWEEP	108	A	1839
			86631B	28480	AUXILIARY SECTION	107	A	2091
			86632A	28480	MODULATION SECTION	107	A	2092
			8690A	28480	OSCILLATOR SWEEP	052	A	2074
			86998	28480	OSCILLATOR SWEEP P I	109	A	2080
		AN/LSM-221	SM2000	04423	GENERATOR SIGNAL	109	A	0480
		C-1637/U	E2M	04423	P I HEAD SWEEP GENERATOR	109	A	1901
		RL-1242/USM-308	86998	28480	OSCILLATOR SWEEP P I	049	A	0795
		RL-1343/U	L6M	04423	P I HEAD SWEEP GENERATOR	108	A	0808
		SG-407/U	1000	80138	GENERATOR SWEEP	109	A	0853
		SG-575/U	IF8664	80138	GENERATOR SWEEP	108	A	0861
		SG-593/U	9008	01113	GENERATOR SWEEP	052	A	0863
		SG-677/U	8S-800H	23042	SWEEP GENERATOR	109	A	0859
		SG-688R/USM-219	SM-2000	04423	GENERATOR SIGNAL	052	A	0871
		SG-888/U	200-315	23042	GENERATOR SWEEP	109	A	0881
		SG-92/U	110-A	80138	GENERATOR SWEEP	052	A	0836
TACHOMETER ELECTRONIC	32	FUNCTIONALLY COMPATIBLE						
			C	55719	T S TACH OWELL	117	B	2681
			TDT-12	82386	TACHOMETER OWELL	117	B	3404
			17-23-3	30120	TESTER PRECISION TACHOMETER	117	B	2464
			27-55	01216	SCOPE ANALYZER	117	B	3520
			27-83	01216	TACHOMETER OWELL	117	B	3521
			36FE		TACHOMETER PHOTO	117	B	1762

J-44

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

DTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

DTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE ID NO.
TACHOMETER ELECTRONIC	32	PARTIALLY COMPATIBLE						
			MT-650	16764	ANALYZER ENGINE	117	B	3393
			TDS-2	55026	T S TACHOMETER DWELL	117	R	3403
			500C	28480	FREQUENCY METER	117	R	3548
		TS-B06/U	441	80740	TACHOMETER ELEC	117	B	1113
		TTU-27/E	F5000	84997	T S TACHOMETER	117	B	1257
TELETYPE TEST SET	35	FUNCTIONALLY COMPATIBLE						
		AN/GGM-1	DAC-5	96238	T S TELETYPEWRITER	066	B	0145
		AN/GGM-1A	DAC-V	96238	T S TELETYPEWRITER	066	B	0141
		AN/GGM-11(V)	9D0670D3-002	96238	T S TELETYPEWRITER	066	B	0147
		AN/GGM-15(V)	9600	14031	T S TELEGRAPH	066	B	0148
		AN/GGM-15(V)1	9600	14031	T S TELEGRAPH	066	B	0149
		AN/GGM-15(V)2	9600PM	14031	T S TELEGRAPH	066	B	0150
		AN/GGM-2	DAC-5	96238	T S TELETYPEWRITER	066	B	0142
		AN/GGM-20	DTS-531A	31935	T S TELETYPEWRITER	066	B	0151
		AN/GGM-3	DAC-5	96238	T S TELETYPEWRITER	066	B	0144
		AN/GGM-4	DAC-5	96238	T S TELETYPEWRITER	066	B	0140
		AN/GGM-5	DAC-5-F	96238	T S TYPEWRITER	066	B	0146
		AN/PGM-1	EMTS-200	02036	T S TELEGRAPH	067	B	0236
		AN/PGM-1A	249	06053	T S TELEGRAPH	067	B	0237
		AN/PGM-1B	KEC-775-0	09043	T S TELEGRAPH	067	B	0238
		TS-657/FG	119A	64959	T S TELETYPEWRITER	067	B	3654
		TS-659(I)/UG	ED-5B-ME	59433	T S TELETYPEWRITER	067	B	3639
		PARTIALLY COMPATIBLE						
			DA-404A	96238	PORTABLE DATA ANALYZER	066	B	2350
		AN/UGM-1		96238	T S TELETYPEWRITER	066	B	0307
		AN/UGM-5		06763	T S TELETYPEWRITER	067	B	0308
		SG-1054/G	PG-3D3A	96238	GENERATOR PATTERN	067	B	0895
		TS-1060/GG	TQA-2NH	96238	T S TELETYPEWRITER	066	B	1127
		TS-1060A/GG	TQA-2NB	96238	T S TELETYPEWRITER	066	B	1128
		TS-1060B/GG	ASD-100A	05729	T S TELETYPEWRITER	066	B	1129
		TS-1512,A,B/GGM	DD-5/DAC-V	96238	T S TELETYPEWRITER	067	B	1141
		TS-2255/G	7412	80257	T S TELETYPEWRITER	067	B	1187
		TS-2256/G	DT-603	14031	T S TELETYPEWRITER	066	B	1188
		TS-2393/G	BAC-7	96238	ANALYZER TELEDATA	066	B	1193
		TS-3378/G	DMS303A	96238	ANALYZER DATA TELEGRAPH	066	B	2361
		TS-383/GG	DXD4	59433	T S TELETYPEWRITER	066	B	1007
		TS-383A/GG	DXD4-DTS	59433	T S TELETYPEWRITER	066	B	1008
		TS-383B/GG	BXD4/MU26	59433	T S TELETYPEWRITER	066	B	1009
		TS-658(I)/UG	ED-51-DT	59433	T S TELETYPEWRITER	067	B	3638
		TS-660/UG	161A1	64959	T S TELETYPEWRITER	067	B	3655
		TS-785/GG	X75041A	64959	T S TELETYPEWRITER	066	B	1104

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
TELETYPE TEST SET	35	PARTIALLY COMPATIBLE						
		TS-7B5A/GG	GA-10767	64959	T S TELETYPEWRITER	066	B	1105
		TS-917/GG	TTA-2	96238	T S TELETYPEWRITER	066	B	1119
		TS-917A/GG		96238	T S TELETYPEWRITER	066	B	1120
TELETYPE TEST SET ANALYZER	33	FUNCTIONALLY COMPATIBLE						
		AN/LGM-1	DA-404A	96238	PORTABLE DATA ANALYZER	066	B	2350
		TS-1060/GG	TDA-2NB	96238	T S TELETYPEWRITER	066	B	0307
		TS-1060A/GG	TDA-2NB	96238	T S TELETYPEWRITER	066	B	1127
		TS-1060B/GG	ASD-100A	96238	T S TELETYPEWRITER	066	B	1128
		TS-2256/G	OT-603	05729	T S TELETYPEWRITER	066	B	1129
		TS-2393/G	RAC-7	14031	T S TELETYPEWRITER	066	B	1188
		TS-3378/G	DMS303A	96238	ANALYZER TELEDATA	066	B	1193
		TS-383/GG	DX04	96238	ANALYZER DATA TELEGRAPH	066	B	2361
		TS-383A/GG	OXD4-OTS	59433	T S TELETYPEWRITER	066	B	1007
		TS-383B/GG	BXD4/MJ26	59433	T S TELETYPEWRITER	066	B	1008
		TS-611C/FG	GA-11672	59433	T S TELETYPEWRITER	066	B	1039
		TS-611C/U	GA-11672	64959	TELETYPEWRITER T S	066	B	3558
		TS-660/UG	16141	64959	T S TELETYPEWRITER	066	B	3653
		TS-785A/GG	X75041A	64959	T S TELETYPEWRITER	067	B	3655
		TS-785A/GG	GA-10767	64959	T S TELETYPEWRITER	066	B	1104
		TS-800/UGM-1		64959	T S TELETYPEWRITER	066	B	1105
		TS-917/GG	TTA-2	96238	T S TELETYPEWRITER	066	B	1107
		TS-917A/GG		96238	T S TELETYPEWRITER	066	B	1119
				96238	T S TELETYPEWRITER	066	B	1120
		PARTIALLY COMPATIBLE						
		AN/GGM-1	OAC-5	96238	T S TELETYPEWRITER	066	B	0145
		AN/GGM-1A	OAC-V	96238	T S TELETYPEWRITER	066	B	0141
		AN/GGM-11(V)	90067003-002	96238	T S TELETYPEWRITER	066	B	0147
		AN/GGM-15(V)	9600	14031	T S TELEGRAPH	066	B	0148
		AN/GGM-15(V)1	9600	14031	T S TELEGRAPH	066	B	0149
		AN/GGM-15(V)2	9600RM	14031	T S TELEGRAPH	066	B	0150
		AN/GGM-2	OAC-5	96238	T S TELETYPEWRITER	066	B	0142
		AN/GGM-20	DTS-531A	31935	T S TELETYPEWRITER	066	B	0151
		AN/GGM-3	OAC-5	96238	T S TELETYPEWRITER	066	B	0144
		AN/GGM-4	OAC-5	96238	T S TELETYPEWRITER	066	B	0140
		AN/GGM-5	OAC-5-E	96238	T S TELETYPEWRITER	066	B	0146
		TS-657/FG	119A	64959	T S TELETYPEWRITER	067	B	3654
		TS-659(I)/UG	EO-5B-ME	59433	T S TELETYPEWRITER	067	B	3639

## PART I TMDE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMDE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMDE ID NO.
TELETYPE TEST SET GENERATOR	34	FUNCTIONALLY COMPATIBLE						
			PG-404	96238	PORTABLE PATTERN GENERATOR	067	B	2483
		AN/UGM-5.		06763	T S TELETYPEWRITER	067	B	0308
		SG-1054/G	PG-303A	96238	GENERATOR PATTERN	067	B	0895
		TS-1512,A,B/GGM	DD-5/DAC-V	96238	T S TELETYPEWRITER	067	B	1141
		TS-28/TG			T S TELETYPEWRITER	067	B	0950
		TS-2255/G	7412	80257	T S TELETYPEWRITER	067	B	1187
		TS-65B(1)/UG	ED-51-OT	59433	T S TELETYPEWRITER	067	B	3638
		TS-799/UGM-1		96238	T S TELETYPEWRITER	067	B	1106
		PARTIALLY COMPATIBLE						
		AN/GGM-1	DAC-5	96238	T S TELETYPEWRITER	066	B	0145
		AN/GGM-1A	DAC-V	96238	T S TELETYPEWRITER	066	B	0141
		AN/GGM-11(V)	90067003-002	96238	T S TELETYPEWRITER	066	B	0147
		AN/GGM-15(V)	9600	14031	T S TELEGRAPH	066	B	0148
		AN/GGM-15(V)1	9600	14031	T S TELEGRAPH	066	B	0149
		AN/GGM-15(V)2	9600RM	14031	T S TELEGRAPH	066	B	0150
		AN/GGM-2	DAC-5	96238	T S TELETYPEWRITER	066	B	0142
		AN/GGM-20	DTS-531A	31935	T S TELETYPEWRITER	066	B	0151
		AN/GGM-3	DAC-5	96238	T S TELETYPEWRITER	066	B	0144
		AN/GGM-4	DAC-5	96238	T S TELETYPEWRITER	066	B	0140
		AN/GGM-5	DAC-5-E	96238	T S TYPEWRITER	066	B	0146
		TS-657/FG	1194	64959	T S TELETYPEWRITER	067	B	3654
		TS-659(1)/UG	ED-5B-ME	59433	T S TELETYPEWRITER	067	B	3639
TELEVISION GENERATOR A	79	FUNCTIONALLY COMPATIBLE						
			415	08098	GENERATOR SWEEP/MARKER	068	D	1859
		AN/USM-221	SM2000	04423	GENERATOR SIGNAL	109	A	0480
		PARTIALLY COMPATIBLE						
			SS-117	33347	ANALYZER SWEEP CKT	068	D	1917
		AN/USM-222	SM2000	04423	GENERATOR SIGNAL	109	A	0491
TELEVISION GENERATOR C	80	FUNCTIONALLY COMPATIBLE						
			WR-515A	02734	MASTER CHRO-BAR GENERATOR/SIGNALYST	068	D	1876
TEMPERATURE INDICATOR	96	PARTIALLY COMPATIBLE						
		AN/AAM-15	388-SL	55026	THERMOCOUPLE TEMPERATURE INDICATOR	070	E	3594

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
TRANSMISSION TEST SET A	81	FUNCTIONALLY COMPATIBLE						
			TTI-11038	50137	T S TRANSMISSION	071	0	2363
			TTI-1140	50137	T S TELEPHONE	071	0	2365
			12-B	14140	MEASURING SET TELEPHONE TRANSMISSIO	071	0	2369
		AN/USM-181	3550A	28480	T S TELEPHONE	071	0	0455
		AN/USM-181B	3550B-C15	28480	T S TELEPHONE	071	0	0456
		AN/USM-343	3550A-C24	28480	T S TELEPHONE	071	0	0534
		AN/USM-423	3550B-H03	28480	TELEPHONE TEST SET	071	0	1787
		ME-22/PCM	5491	92161	METER DECIBEL	071	0	0653
		ME-22A/PCM		92161	METER DECIBEL	071	0	0654
		ME-71A/FCC	108A	94668	METER AUDIO LEVEL	005	0	0671
		ME-71B/FCC	108B	94668	METER AUDIO LEVEL	005	0	0672
		ME-71C/FCC	52D074	07450	METER AUDIO LEVEL	005	0	0673
		TA-885/U	3555B	28480	T S TELEPHONE	071	0	2357
		TS-140/PCM	5489	11975	T S TELEPHONE	071	0	0963
		TS-3171/U	TTS-37B	06819	T S AUDIO	071	0	1225
		TS-3483/U	TTS-4CR	06819	TRANSMISSION T S	071	0	1615
		TS-559/FT	2B	64959	TRANSMISSION MEASURING SET	071	0	1044
		TS-559A	2809	14140	TRANSMISSION MEASURING SET	071	0	1045
		TS-559B	34B	14140	TRANSMISSION MEASURING SET	071	0	1046
		TS-559C	34C	14140	TRANSMISSION MEASURING SET	071	0	1047
		TS-559D	T335-TS-559	51865	TRANSMISSION MEASURING SET	071	0	0734
		TS-559E	2020-3A	13175	TRANSMISSION MEASURING SET	071	0	1049
		TS-569/FT	30A	64959	T S TELEPHONE	071	0	1051
		TS-629/U	920	14140	AUDIO LEVEL TEST PANEL	005	0	1068
		TS-629A/U		50304	AUDIO LEVEL TEST PANEL	005	0	1069
		TS-629B/U		14140	AUDIO LEVEL TEST PANEL	005	0	3736
		TS-629C/U		53527	AUDIO LEVEL TEST PANEL	005	0	1070
		TS-629D/U	TR-924	14140	AUDIO LEVEL TEST PANEL	005	0	1071
		TS-629E/U	0211A03	25572	AUDIO LEVEL TEST PANEL	005	0	1072
		TS-716/U	224	02230	T S TELEPHONE	071	0	1091
		TS-762/TC	NUS-2120	14140	T S AUDIO	071	0	1100
		TS-903/G	I-142	90649	T S TELEPHONE	122	0	1117
		PARTIALLY COMPATIBLE						
			T-4	88273	TRACER SIGNAL	118	E	2496
			TTS-4BNH	06819	TELEPHONE TEST SET	071	0	2362
			9041	20944	TRANSM LEVEL & RETURN LOSS MEAS SET	071	0	2391
		ME-260/U	403B	28480	VOLTMETER ELEC	076	8	0691
		ME-30/U	400C	28480	VOLTMETER ELEC	076	8	0650
		ME-30A/U	400D	28480	VOLTMETER ELEC	076	8	0661
		ME-30B/U	513A	26687	VOLTMETER ELEC	076	8	0652
		ME-30C	513A	26687	VOLTMETER	076	8	3622
		ME-30D/U	111A	35124	VOLTMETER ELEC	076	8	0663
		ME-30E	998-101	12365	ELECTRONIC VOLTMETER	076	8	3623

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE ID NO.
TRANSMISSION TEST SET A	81	PARTIALLY COMPATIBLE						
		ME-356/U	OP-1828	14140	METER AUDIO LEVEL	005	0	0702
		TS-27/TSM	0166237	64959	T S TELEPHONE	032	8	0956
		TS-27A/TSM	71-3003		T S TELEPHONE	032	8	0957
		TS-27B/TSM	ETS-278	00798	T S TELEPHONE	032	8	0958
TRANSMISSION TEST SET B	82	FUNCTIONALLY COMPATIBLE						
			4940A-01	28480	SET MEASURING TRANSMISSION IMPAIRME	014	0	1680
		PARTIALLY COMPATIBLE						
			1018	16152	COUNTER TIMER	023	0	2198
			9041	20944	TRANSM LEVEL & RETURN LOSS MEAS SET	071	0	2391
		AN/USM-181	3550A	28480	T S TELEPHONE	071	0	0455
		AN/USM-1818	35508-C15	28480	T S TELEPHONE	071	0	0456
		AN/USM-343	3550A-C24	28480	T S TELEPHONE	071	0	0534
		AN/USM-423	35508-H03	28480	TELEPHONE TEST SET	071	0	1787
		CP-1101/U	TTS58A	06819	COUNTER ELEC DIGITAL	023	0	0551
		ME-22/PCM	5491	92161	METER DECIBEL	071	0	0653
		ME-22A/PCM		92161	METER DECIBEL	071	0	0654
		ME-260/U	4038	28480	VOLTMETER ELEC	076	8	0691
		ME-30/U	400C	28480	VOLTMETER ELEC	076	8	0660
		ME-30A/U	400D	28480	VOLTMETER ELEC	076	8	0661
		ME-308/U	513A	26687	VOLTMETER ELEC	076	8	0662
		ME-30C	513A	26687	VOLTMETER	076	8	3622
		ME-300/U	111A	35124	VOLTMETER ELEC	076	8	0663
		ME-30E	998-101	12365	ELECTRONIC VOLTMETER	076	8	3623
		ME-356/U	OP-1828	14140	METER AUDIO LEVEL	005	0	0702
		ME-490/U	48(A3)	50319	METER PHASE JITTER	037	0	1629
		ME-71A/FCC	108A	94668	METER AUDIO LEVEL	005	0	0671
		ME-71B/FCC	108B	94668	METER AUDIO LEVEL	005	0	0672
		ME-71C/FCC	520074	07450	METER AUDIO LEVEL	005	0	0673
		TA-885/U	35558	28480	T S TELEPHONE	071	0	2357
		TS-140/PCM	5489	11975	T S TELEPHONE	071	0	0963
		TS-2395/G	340B	94668	ENVELOPE DELAY T S	016	0	1195
		TS-2395A/G	340A	94668	ENVELOPE DELAY T S	016	0	1196
		TS-2669/GCM	490A	03860	MEASURING SET ENVELOPE DELAY DISTOR	016	0	1206
		TS-2669A/GCM	490B	03860	MEASURING SET ENVELOPE DELAY DISTOR	016	0	1207
		TS-3171/U	TTS-378	06819	T S AUDIO	071	0	1225
		TS-3483/U	TTS-4CR	06819	TRANSMISSION T S	071	0	1615
		TS-559/FT	28	64959	TRANSMISSION MEASURING SET	071	0	1044
		TS-559A	2809	14140	TRANSMISSION MEASURING SET	071	0	1045
		TS-559B	34B	14140	TRANSMISSION MEASURING SET	071	0	1046
		TS-559C	34C	14140	TRANSMISSION MEASURING SET	071	0	1047
		TS-559D	T335-TS-559	51865	TRANSMISSION MEASURING SET	071	0	0734



## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SREC NO	TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE ID NO.
TRANSMISSION TEST SET B	B2	PARTIALLY COMRATIBLE						
		TS-559E	2020-3A	13175	TRANSMISSION MEASURING SET	071	D	1049
		TS-569/5T	30A	64959	T S TELERHONE	071	D	1051
		TS-716/U	224	02230	T S TELERHONE	071	O	1091
		TS-762/TS	NUS-2120	14140	T S AUDIO	071	O	1130
TUBE TESTER	36	FUNCTIONALLY COMPATIBLE						
			KS-15750L2	28569	TESTER ELEC TUBE	072	E	2548
			123A	28569	T S ELECTRON TUBE	072	B	2480
			533	28569	T S ELEC TUBE	072	B	2513
			6000	28569	T S ELEC TUBE	072	B	2530
			6000A	28569	T S ELEC TUBE	072	B	2694
			8VR4	28569	T S CATHODE RAY TUBE	072	B	2460
			B566309	19200	TESTER TUBE	072	B	2717
		TV-13/U	K-100	82199	T S ELECTRON TUBE	072	B	1255
		TV-13A/I	K-200	82199	T S ELECTRON TUBE	072	B	1266
		TV-2/U		60741	T S ELECTRON TUBE	072	B	1258
		TV-2A/U			T S ELECTRON TUBE	072	B	1259
		TV-2B/U			T S ELECTRON TUBE	072	B	1250
		TV-2C/U			T S ELECTRON TUBE	072	B	1261
		TV-6/U	602	86270	T S ELECTRON TUBE	072	B	1252
		TV-7/U		28569	T S ELECTRON TUBE	072	B	1263
		TV-7D/U		00641	T S ELECTRON TUBE	072	B	1264
		PARTIALLY COMRATIBLE						
			C-2767	32385	TESTER IMAGE TUBE	072	E	2537
			TT-125	04071	TESTER TUBE IMAGE	072	B	2503
			YTW-3	13688	ANALYZER INDUSTRIAL TUBE	072	B	2456
			1200	88273	TESTER ELEC TUBE	072	B	2521
			122001	89944	TESTER THREE STAGE	072	B	2711
			18-20017	89944	TESTER TUBE ONE STAGE	072	B	2455
			18-20018	89944	TESTER TUBE THREE STAGES	072	B	2466
			1820016	89944	TESTER TUBE ONE STAGE IMAGE	072	B	2714
			31T-1875	86270	T S STATIC TUBE	072	B	2470
			350334	97312	T S ELECTRON TUBE	072	B	2713
VECTOR IMPEDANCE METER A	83	FUNCTIONALLY COMRATIBLE						
			212A	07342	VOLTMETER PHASE ANGLE	073	O	1331
		ZM-74/U	4803A	28480	METER VECTOR IMPEDANCE	073	O	1489

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
VECTOR IMPEQANCE METER A	83	PARTIALLY COMPATIBLE						
			301A	07342	VOLTMETER	074	0	2009
VECTOR IMPEQANCE METER B	84	FUNCTIONALLY COMPATIBLE						
			4B15A	28480	METER RF VECTOR IMPEDANCE	073	0	1490
		PARTIALLY COMPATIBLE						
			212A	07342	VOLTMETER PHASE ANGLE	073	D	1331
			301A	07342	VOLTMETER	074	0	2009
VECTOR VOLTMETER	85	FUNCTIONALLY COMPATIBLE						
			8405A	28480	VOLTMETER VECTOR	074	0	1436
		ME-223/APN-129	2028R	07342	VOLTMETER PHASE ANGLE	074	D	0685
		PARTIALLY COMPATIBLE						
			R-12	88416	VOLTMETER AC	073	D	3685
			212A	07342	VOLTMETER PHASE ANGLE	073	0	1331
			301A	07342	VOLTMETER	074	0	2009
VIBRATION TEST SET	97	FUNCTIONALLY COMPATIBLE						
			1-500	62973	VIBRATION TESTER	111	E	2187
			10-VA-0	01072	TESTER VIBRATION	111	E	2190
			100VP-0	01072	TESTER VIBRATION	111	E	2197
			1000-SC	34532	TESTER VIBRATION	111	E	2218
			7560085	19200	TESTER VIBRATION UNIVERSAL	111	E	2271
			7661921	19200	TESTER VIBRATION	111	E	2283
		PARTIALLY COMPATIBLE						
			08-07-95	77272	INDICATOR VIBRATION AMPLITUDE	111	E	2539
			1C	62973	VIBROMETER	111	E	2186
			1553-9701	24655	METER VIBRATION	111	E	2224
			330	21354	ANALYZER DYNAMIC VIBRATION BALANCE	111	E	1772
			36949801	02731	ANALYZER VIBRATOR	111	E	3458
VOICE BAND ANALYZER	86	FUNCTIONALLY COMPATIBLE						
			297A	28480	SWEET DRIVE	075	0	1855
			302A	28480	ANALYZER WAVE	075	0	1639

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
VOICE BAND ANALYZER	86	PARTIALLY COMPATIBLE						
			127C	9466B	METER LEVEL FREQ SELECTIVE	110	C	2044
			129B	9466B	VOLTMETER FREQ SELECTIVE	110	C	2045
			305	9466B	COMM TRANSMISSION MEASUREMENT SYSTEM	110	C	2433
			305A	9466B	TRANSMISSION MEASUREMENT SYSTEM	110	C	2380
			3591A	28480	VOLTMETER FREQ SELECTIVE	110	C	1947
			3594A	28480	OSCILLATOR SWEEPING LOCAL PLUG IN	059	C	1671
		MF-295/U	125A	9466B	VOLTMETER FREQ SELECTIVE	110	C	0693
VOLTMETER, AC	37	FUNCTIONALLY COMPATIBLE						
			M853W450ACVV	04423	VOLTMETER AC	076	B	1991
			M1	03782	VOLTMETER ELEC	076	B	1989
			S-49M	28569	VOLTMETER AC	076	B	2029
			V-100M	12365	VOLTMETER	076	B	2032
			124K	80164	VOLTMETER AC	076	B	2041
			2005	0809B	VOLTMETER	076	B	1935
			291B712A17	79500	VOLTMETER AC	076	B	2036
			400FL	28480	VOLTMETER	076	B	2062
			400FL	28480	VOLTMETER ELECTRONIC	076	B	2063
			400HR	28480	VOLTMETER ELEC	076	B	3361
			433	65092	VOLTMETER AC	076	B	2023
			433A	65092	VOLTMETER AC	076	B	1950
			433R	65092	VOLTMETER AC	076	B	1952
			704 HSP	95800	VOLTMETER	076	B	1963
			727	01113	SIGNAL LEVEL METER	076	B	1964
			365-1	66150	T S ELECTRICAL POWER	076	B	0336
		AN/UPM-100			T S ELECTRICAL POWER	076	B	0330
		AN/UPM-93			T S ELECTRICAL POWER	076	B	0331
		AN/UPM-93A/U			T S ELECTRICAL POWER	076	B	0332
		AN/UPM-93C	15-001	24635	T S ELECTRICAL POWER	076	B	3571
		AN/UPM-155	411A-11025A	28480	VOLTMETER ELECTRONIC	076	B	0497
		AN/USM-265	400EL02	28480	VOLTMETER ELEC	076	B	0632
		IS-185	433	65092	VOLTMETER	076	B	0677
		ME-147/U	ESH	54085	VOLTMETER	076	B	0691
		ME-260/U	403B	28480	VOLTMETER ELEC	076	B	0650
		ME-30/U	400C	28480	VOLTMETER ELEC	076	B	0661
		ME-30A/U	4000	28480	VOLTMETER ELEC	076	B	0662
		ME-30B/U	513A	26687	VOLTMETER ELEC	076	B	0663
		ME-30C	513A	26687	VOLTMETER	076	B	0663
		ME-30D/U	111A	35124	VOLTMETER ELEC	076	B	0623
		ME-30E	99B-101	12365	ELECTRONIC VOLTMETER	076	B	0697
		ME-334/U	309-1	0063B	VOLTMETER ELEC	076	B	0701
		ME-340/U	400EL/002	28480	VOLTMETER ELEC	076	B	0708
		ME-444/U	320A	50423	VOLTMETER ELEC	076	B	0710
		ME-451/U	303A	9466B	VOLTMETER ELEC	076	B	0712
		ME-459/U	400EL	28480	VOLTMETER ELEC	076	B	

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

JTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

JTS ETE SPECIFICATION NAME	SPEC NO	TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
VOLTMETER, AC	37	PARTIALLY COMPATIBLE						
			87848-2	13327	CONVERTER THERMAL	076	B	3252
			PA-140C	79500	VOLTMETER PORTABLE TYRE AC	076	B	1998
			RT-BL	89954	VOLTMETER AC	076	B	3686
			VA-35	88416	VOLTMETER AC	076	B	3693
			1346	24655	MICROVOLTAGE AUDIO FREQ	076	A	1927
			18009	24655	VOLTMETER ELECTRONIC	076	B	1933
			2008	80164	VOLTMETER AC DC	076	B	1975
			260-5	55026	MULTIMETER	032	B	1336
			300M	50423	VOLTMETER ELEC	076	B	2037
			310A	50423	VOLTMETER	076	B	3353
			310A-S2	50423	VOLTMETER	076	B	3354
			310B-S2	50423	VOLTMETER ELEC	076	B	3355
			313	55026	MULTIMETER	032	B	1345
			316S2	50423	VOLTMETER	076	B	2011
			330	05624	POTENTIOMETER	076	B	2013
			355	50423	VOLTMETER AC DC	076	B	2015
			427A	28480	MULTIMETER	032	B	1353
			430	65092	VOLTMETER AC	076	B	0559
			433-1906002	65092	VOLTMETER PORTABLE AC	076	B	1954
		ME-202/U	803	89536	VOLTMETER ELEC	121	B	0682
		ME-202B/U	803B	89536	VOLTMETER ELEC	121	B	0683
		ME-262/U	305A	50423	VOLTMETER	076	B	0692
		ME-264/U	300M	50423	VOLTMETER ELECTRONIC	076	B	3628
		ME-318/U	3400A	28480	VOLTMETER ELEC	080	B	0695
		ME-71A/FCC	108A	94668	METER AUDIO LEVEL	005	O	0671
		ME-71B/FCC	108B	94668	METER AUDIO LEVEL	005	O	0672
		ME-71C/FCC	520074	07450	METER AUDIO LEVEL	005	O	0673
		TS-2843/U	883AB	89536	VOLTMETER	121	B	1210
VOLTMETER, DIFFERENTIAL	38	FUNCTIONALLY COMPATIBLE						
			7408	28480	DC STANDARD DIFFERENTIAL VOLTMETER	121	B	1965
			7418	28480	VOLTMETER DIFFERENTIAL AC DC	121	B	1966
			803	89536	VOLTMETER ELEC PRECISION DIFFERENTIAL	121	B	2559
			803BR	89536	VOLTMETER DIFFERENTIAL	121	B	1967
			803DAG	89536	VOLTMETER ELEC	121	B	1969
			887-ABAN	89536	VOLTMETER DIFFERENTIAL	121	B	2560
			887A	89536	VOLTMETER DIFFERENTIAL	121	B	1971
			891A	89536	VOLTMETER DIFFERENTIAL DC	121	B	1972
			893A	89536	VOLTMETER DIFFERENTIAL	121	B	1973
		ME-202/U	803	89536	VOLTMETER ELEC	121	B	0682
		ME-202B/U	803B	89536	VOLTMETER ELEC	121	B	0683
		TS-2843/U	883AB	89536	VOLTMETER	121	B	1210

J-53

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFP. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
VOLTMETER, DIFFERENTIAL	38	PARTIALLY COMPATIBLE						
			PX936496	79500	VOLTMETER PORTABLE DC	077	B	2027
			2007	27591	VOLTMETER	079	B	1936
			335A	89536	CALIBRATOR VOLTMETER	121	B	3456
			853A-03	89536	MULTIMETER DIFFERENTIAL	032	B	1376
			885A	89536	VOLTMETER DC	077	B	1970
			9180B	16655	POTENTIOMETER	077	B	2049
		ME-161/U	801	89536	VOLTMETER DIFFERENTIAL	077	B	0679
		ME-333/U	217A	16335	MULTIMETER	032	B	0696
VOLTMETER, DIGITAL	39	FUNCTIONALLY COMPATIBLE						
			OY-2401A-M19	06401	VOLTMETER DIGITAL	078	B	1981
			MR53W750DCVV	04423	VOLTMETER DC PORTABLE	077	B	1992
			PX5	79500	VOLTMETER DC	077	B	2025
			PX936496	79500	VOLTMETER PORTABLE DC	077	B	2027
			X2	03626	MULTIMETER DIGITAL	032	B	1312
			1018B462	18876	MULTIMETER DIGITAL	078	B	1460
			111	55026	VOLTMETER	077	B	2040
			1400	31946	VOLTMETER DC	077	B	1928
			210	80164	ELECTROMETER	077	B	2033
			24421	03626	MULTIMETER ASSEMBLY	032	B	1438
			3443A	28480	VOLTMETER P I UNIT	077	B	1943
			3446A	28480	VOLTMETER RANGE EXTENDER	076	B	1945
			3450A	28480	MULTIMETER	032	B	1396
			3470A	28480	MEASUREMENT SYSTEM	078	B	1399
			3480A	28480	VOLTMETER DIGITAL	078	B	1946
			3480C	28480	DIGITAL VOLTMETER MAINFRAME	078	B	1400
			3490A	28480	MULTIMETER DIGITAL	078	B	1401
			3860A	21793	MULTIMETER DIGITAL	032	B	1402
			4058R	28480	VOLTMETER DIGITAL	077	B	2064
			41-132	38474	VOLTMETER DC	077	B	2037
			4800	21793	VOLTMETER DIGITAL	078	B	1409
			481	03626	VOLTAGE DIGITAL	078	B	1955
			484A	03626	VOLTMETER DIGITAL	078	B	1956
			500-01	13643	VOLTMETER DIGITAL	078	B	1957
			5000-S-2351	21793	VOLT-OHMMETER	078	B	1413
			5400	21793	MULTIMETER	032	B	1415
			5600	21793	VOLTMETER DIGITAL	078	B	2577
			5640	21793	MULTIMETER DIGITAL	078	B	1416
			5900	21793	MULTIMETER DIGITAL	078	B	1417
			7100A	13989	VOLTMETER	078	B	1422
			7300A631	98438	MULTIMETER DIGITAL	032	B	2048
			7630	98438	MULTIMETER DIGITAL	032	B	1423
			7679	07239	OHMMETER	035	B	3560
			784	03626	OHMMETER DIGITAL	035	B	1371

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MER. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
VOLTMETER, DIGITAL	39	FUNCTIONALLY COMPATIBLE						
			B03D	89536	VOLTMETER ELEC	076	B	1958
			8100A	89536	MULTIMETER DIGITAL	032	B	1427
			8100A-01	89536	MULTIMETER DIGITAL	032	B	1428
			8100B	89536	MULTIMETER DIGITAL	032	B	1429
			8120A	89536	MULTIMETER DIGITAL	032	B	1430
			8125A	89536	MULTIMETER	032	B	1431
			8300A	89536	MULTIMETER DIGITAL	032	B	1433
			8350A	89536	MULTIMETER DIGITAL	032	B	1434
			8400A	89536	VOLTMETER DIGITAL	078	B	1435
			880	28009	VOLTMETER D C DIGITAL	077	B	3703
			U35A	03626	VOLTMETER DIGITAL	078	B	0199
			34-2	03626	VOLTMETER DIGITAL	078	B	0200
			8400-AFM	89536	VOLTMETER DIGITAL	078	B	0201
			801	89536	VOLTMETER ELEC	077	B	0437
			MV-17C	85711	VOLTMETER ELEC	077	B	0686
			353	33430	VOLTMETER ELEC	077	B	0687
			182092	65092	VOLTMETER	076	B	0998
			1	65092	VOLTMETER	077	B	1021
		PARTIALLY COMPATIBLE						
			B-2500	00426	T S INSULATION BREAKDOWN	025	B	1288
			DM501	80009	MULTIMETER DIGITAL	032	B	3747
			OPZ	04244	VOLTMETER OC	077	B	3702
			ELECCI	32590	VOLTMETER	076	B	1983
			FSV	32590	VOLTMETER	076	B	3268
			E950081400	15381	MULTIMETER DIGITAL	035	B	1296
			M1	03782	VOLTMETER ELEC	076	B	1989
			P-93008	98438	VOLTMETER	077	B	1996
			PA-140C	79500	VOLTMETER PORTABLE TYPE AC	076	B	1998
			PT-BL	89954	VOLTMETER AC	076	B	3686
			PX15I	79500	VOLTMETER PORTABLE	077	B	2026
			X1	03626	MULTIMETER DIGITAL	032	B	1311
			101	89497	MULTIMETER BLASTING	032	B	1322
			10178145	04164	MULTIMETER DIGITAL	078	B	1445
			18008	24655	VOLTMETER ELECTRONIC	076	B	1933
			195A	49671	MULTIMETER	032	B	1328
			201	16152	VOLTMETER OC	077	B	2001
			2028	05157	VOLTMETER	077	B	2032
			3202P	28569	SYSTEM DIGITAL MEASURING	077	B	1939
			330	05624	POTENTIOMETER	076	B	2013
			3460R-H23	28480	VOLTMETER DIGITAL	078	B	1985
			414A	28480	AUTOVOLTMETER	077	B	3569
			419A	28480	VOLTMETER OC NULL	077	B	1350
			425A	28480	AMMETER OC MICROVOLT	077	B	1351

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFP. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
VOLTMETER, DIGITAL	39	PARTIALLY COMPATIBLE						
			425AR	28480	AMMETER DC MICROVOLT	077	8	1352
			430	65092	MILLIVOLT-AMMETER DC	032	8	1354
			501905	97424	MULTIMETER	032	8	1441
			5703S2127	21793	VOLTMETER DIGITAL RATIO METER	078	8	2578
			600	60741	VOLT-OHM METER	032	8	1357
			630	60741	VOLT-OHM-MILLIAMMETER	032	8	1360
			666H	60741	MULTIMETER	032	8	1364
			666HH	60741	MULTIMETER	032	8	1365
			666RW669RL	60741	MULTIMETER	032	8	1418
			689	65092	OHMMETER	035	8	1952
			7000	96662	AMMETER AC VOLT	032	8	1419
			7050	06811	MULTIMETER	032	8	1421
			779	65092	MULTIMETER	032	8	1370
			785	65092	MULTIMETER PORTABLE	032	8	1372
			8000A-01	89536	MULTIMETER DIGITAL	032	8	1426
			801	60741	MULTIMETER	032	8	1373
			8200A	89536	VOLTMETER DIGITAL	032	8	1425
			8200A	89536	VOLTMETER DIGITAL	078	8	1432
			853A-03	89536	MULTIMETER DIFFERENTIAL	032	8	1376
			970A	28480	MULTIMETER DIGITAL	032	8	1377
			990	60741	T S INDUSTRIAL ANALYZER	032	8	2520
			AN/GSM-13A	19200	ELECTRICAL CABLE TEST SET	077	8	0193
			AN/GSM-45	19200	T S ELECTRICAL CABLE	077	8	0196
			ME-333/U	16335	MULTIMETER	032	8	0696
			ME-338/U	50423	MULTIMETER	032	8	0699
			ME-370/U	28480	MULTIMETER	032	8	0704
			ME-419/U	55026	MULTIMETER ELEC	032	8	0705
			ME-450/U	16902	MULTIMETER	032	8	0709
			ME-489/U	65092	MULTIMETER	032	8	1368
			ME-498/U	28480	MULTIMETER	032	8	3565
			ME-77		MULTITESTER	032	8	3626
			ME-87/U	65092	MULTIMETER	032	8	0676
			PL-1344/U	28480	VOLTMETER DIGITAL P I	078	8	0809
			TS-26/TSM		T S TELEPHONE	032	8	0953
			TS-26A/TSM	121956	T S TELEPHONE	032	8	0954
			TS-268/TSM	88562	T S TELEPHONE	032	8	0955
			TS-2843/U	883AB	VOLTMETER	121	8	1210
			TS-297/U	89536	MULTIMETER	032	8	0994
			TS-352/U	71440	MULTIMETER	032	8	0999
			TS-3528/U	972	MULTIMETER	032	8	1000
				77221	MULTIMETER	032	8	



## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
VOLTMETER, FREQUENCY SELECTIV	70	FUNCTIONALLY COMPATIBLE						
			126B	9466B	VOLTMETER FREQ SELECTIVE	110	C	2043
			3591A	28480	VOLTMETER FREQ SELECTIVE	110	C	1947
		ME-295/U	125B	9466B	VOLTMETER FREQ SELECTIVE	110	C	0693
		PARTIALLY COMPATIBLE						
			127C	9466B	METER LEVEL FREQ SELECTIVE	110	C	2044
			129B	9466B	VOLTMETER FREQ SELECTIVE	110	C	2045
			305	9466B	COMM TRANSMISSION MEASUREMENT SYSTE	110	C	2433
			305A	9466B	TRANSMISSION MEASUREMENT SYSTEM	110	C	2380
		FR-205/U	128A	9466B	METER FREQ	110	C	0575
		TS-3066(V)2/U	312A	28480	SPECTRUM ANALYZER	110	C	1220
		TS-3066(V)3/U	312B	28480	ANALYZER WAVE	110	C	3563
VOLTMETER, RF	40	FUNCTIONALLY COMPATIBLE						
			MV28B	85711	MICROVOLTMETER RF	079	B	1994
			10	09435	VOLTMETER ELEC	080	B	3338
			10167653	80053	DIGITAL MULTIMETER	079	B	1444
			91HRS7	04901	VOLTMETER RADIO FREQ SENSITIVE METER	079	B	2038
		AN/URM-145	91CA	04901	VOLTMETER ELEC	079	B	0393
		AN/URM-145A	991000	24635	VOLTMETER ELEC	079	B	0394
		AN/URM-145B	MV828A	85711	VOLTMETER ELEC	079	B	0395
		ME-426/U	3406A	28480	T S BRDAD BAND	079	B	2791
		ME-56/TSM	337	96762	VOLTMETER ELEC	079	B	0665
		ME-6/U	300A	50423	VOLTMETER ELEC	076	B	0647
		ME-88/U	411A	28480	RF MILLIVOLTMETER	079	B	3682
		PARTIALLY COMPATIBLE						
			2007	27591	VOLTMETER	079	B	1936
		ME-26/U	410A	28480	MULTIMETER	032	B	0655
		ME-26A/U	410B	28480	MULTIMETER	032	B	0656
		ME-26B/U		91820	MULTIMETER	032	B	0657
		ME-26C/U	260000	99395	MULTIMETER	032	B	0658
		ME-26D/U			MULTIMETER	032	B	0659
		ME-303A/U	410C	28480	VOLTMETER ELEC	032	B	0694
		TS-505/U	123		MULTIMETER	032	B	1035
		TS-505A/U	PL3000	77221	MULTIMETER	032	B	1036
		TS-505B/U	011700	94066	MULTIMETER	032	B	1037
		TS-505C/U			MULTIMETER	032	B	1038
		TS-505D/U			MULTIMETER	032	B	1039
		TS-505E/U	EA0-197/129	02581	MULTIMETER	032	B	1040

## PART I TMOE CROSS-REFERENCE LIST

06/22/78

OTS ETE SPECIFICATION TO US ARMY GENERAL PURPOSE TMOE

OTS ETE SPECIFICATION NAME	SPEC NO	TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	FAMILY CODE	GP LTR	TMOE IO NO.
VOLTMETER, RMS	41	FUNCTIONALLY COMPATIBLE						
			10111154	18876	VOLTMETER ELEC	080	8	2055
			323	50423	VOLTMETER ELEC	080	8	2012
			3400A-Y10	28480	VOLTMETER PMS	080	8	2574
			910AR/AV	89536	METER V ELECTRIC	080	8	2561
			93AD	04901	VOLTMETER TRUE RMS	080	8	2039
		AN/USM-224	3400A	28480	RMS VOLTMETER	080	8	0483
		ME-31R/U	3400A	28480	VOLTMETER FLEC	080	8	0695
		PARTIALLY COMPATIBLE						
			3403C	28480	VOLTMETER TRUE RMS	080	8	1940
			341	65092	VOLTMETER AC DC	080	8	2014
		AN/USM-265	400EL02	28480	VOLTMETER FLEC	076	8	0497
		ME-30C	513A	26687	VOLTMETER	076	8	3622
		ME-300/U	111A	35124	VOLTMETER ELEC	076	8	0663
		ME-30E	998-101	12365	ELECTRONIC VOLTMETER	076	8	3623
		ME-340/U	400EL/002	28480	VOLTMETER ELEC	076	8	0701
		ME-444/U	320A	50423	VOLTMETER ELEC	076	8	0708
		ME-451/U	303A	94668	VOLTMETER ELEC	076	8	0710
		ME-459/U	400EL	28480	VOLTMETER ELEC	076	8	0712
X-Y RECORDER	58	FUNCTIONALLY COMPATIBLE						
			RD2521-20	06743	RECORDER ANALOG	084	E	1552
			7001AR	28480	RECORDER X-Y	084	E	1447
			7035A	28480	RECORDER X-Y	084	E	1448
			8CE1V8K	29834	VOLTMETER RECORDING	084	E	1587
		RC-458V(1)U	7035B	28480	RECORDER	084	E	3557
		PARTIALLY COMPATIBLE						
		TS-3012/U	135	28480	RECORDER COORDINATE DATA	084	E	1518

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GP LTR	TMDE ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
AK4		24446	MULTIMETER ELEC SRLIT CORE TYPE		23				002	B	3689
AK4		03927	MULTIMETER ELEC SRLIT CORE TYRE		23				002	B	3688
AP-9		03516	AMMETER AC	23					001	B	1976
AP-1292		04468	TESTER CONTINUITY SHIELDED	28					118	E	2416
AR-1C		15196	METER DEVIATION FM	57					031	C	1598
AW-55-65C		72264	RECORDER FREQUENCY	91	92				064	E	1540
AW-60-400C		72264	VOLTMETER GRAPHIC	91	92				064	E	1541
AX		13648	AMMETER AC/DC TONG PICKUP	23					002	B	1977
A661159		77327	MULTIRLIER FREQ	11					053	A	3247
A7006		77327	GENERATOR SIGNAL R I		11				053	A	3246
B-2500		00426	T S INSULATION BREAKDOWN		31	30	39		025	B	1288
B-79		22336	GAUSSMETER	89					021	E	1803
BC-376M		54486	GENERATOR SIGNAL	18	3				106	A	2349
BF60		53790	TESTER CAPACITOR RESISTOR		25				011	B	1289
B7B		06692	GENERATOR PULSE	4					050	A	3251
B7B48-2		13327	CONVERTER THERMAL		37				076	B	3252
C		55719	T S TACH OMELL	32					117	B	2681
C-2767		32385	TESTER IMAGE TUBE		36				072	E	2537
CH-7		13688	VOLT-AMMETER		28	29	23		032	B	3690
CL-400		14704	METER ELECTRICAL FREQ	47					020	C	1808
CRM-500		91161	METER CALORIMETRIC ROWER	42					010	C	1809
CT3		31989	TESTER CKT CONTINUITY AUDIBLE		28				118	B	1293
CVO-100PM		65092	OSCILLATOR PRECISION	1					006	A	3264
CX-7006		77327	GENERATOR SIGNAL P I	12	5	6			053	A	3265
C4108		00929	METER FREQ	53					020	C	1807
DA 410		65092	ANALYZER TRANSFER FUNCTION	78					037	D	1566
DA-404A		96238	PORTABLE DATA ANALYZER	33	35				066	P	2350
DCHI		03782	VOLTMETER		28				077	R	2654
DM501		80009	MULTIMETER DIGITAL	29	39				032	B	3747
DPZ		04244	VOLTMETER DC	29	39				077	B	3702
DP170		28569	BRIDGE RESISTANCE DIGITAL	25					008	B	1930
DY-2401A-M19		06401	VOLTMETER DIGITAL	39	29				078	B	1981
D8-07-95		77272	INDICATOR VIBRATION AMPLITUDE		97				111	E	2539
ELECCI		32590	VOLTMETER		29	39			076	B	1983
EMA-910		88869	METER RADIO INTERFER AND FIELD INTE	46	45				043	C	2352
FSH MIX		88869	VOLTMETER		26				035	B	1297
ESV		32590	VOLTMETER		29	39			076	B	3268
E1002		07239	BRIDGE IMPEDANCE	25					008	B	3257
F3067		07239	POTENTIOMETER		25				008	B	1982
F3108		07239	BRIDGE RESISTANCE	25					008	B	1295
E950081400		15381	MULTIMETER DIGITAL	29	39				035	B	1296
FM-7			METER FREQ		48	49	50	51	020	C	1813
F51A		07421	GENERATOR SIGNAL	2					047	A	1902
F53A		07421	GENERATOR SIGNAL		1	3			006	A	1599
F55A		07421	GENERATOR FUNCTION	2					047	A	1812
G532A		28480	FREQ METER	53					020	C	3270
HD125XC			TESTER HIGH POTENTIAL	26					025	B	1298

## PART II TMDE CROSS-REFERENCE LIST

06/22/79

US ARMY GENERAL PURPOSE TMDE TO DTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP	LTR	TMDE ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
	H347A	28480	NOISE SOURCE	13					055	A	1937
	H530A	28480	METER FREQ	53					020	C	1816
	IG-115	C3782	GENERATOR SIGNAL	2					047	A	1908
	J532A	28480	METER FREQ	53					020	C	1821
	J79902C1L1-902C	64959	T S DATA	72					013	D	2388
	KS-15750L2	28569	TESTER ELEC TUBE	36					072	E	2548
	KS50-40	92656	T S HIGH VOLTAGE	26					025	B	1299
	K1R		TESTER TUBE CONTRAST TRSR		26	94	28		072	B	2547
	K221	34228	AUTOCOLLIMATOR		90				119	E	3271
	K410A	00929	WAVEMETER	55					020	C	1822
	K532A	28480	METER FREQ	55					020	C	3272
	K661159	77327	MULTIPLIER FREQ	12	8	9			053	A	3274
	K7006	28480	GENERATOR SIGNAL P I		4				050	A	3273
	LAV8600	15566	VOLTMETER RECORDING AC		91	92			064	E	1988
	L5-XA	04423	GENERATOR SWEEP	20	22				108	A	1939
	L5-XA-1	04423	GENERATOR SIGNAL	22					108	A	1910
	L7006	77327	GENERATOR SIGNAL	16					107	A	3275
	M-3	56289	T S CAPACITOR COMPACT	25					011	B	1330
	MF10		METER RESONANT REED FREQ		47				020	E	1779
	MIL-T-10314	65092	T S OHMMETER		29	27	30		035	B	1990
	MM-120	98282	METER AMPLITUDE MODULATION	57					031	C	1632
	MP-1	04596	PULSER MINI	4					050	A	1912
	MR53W450ACVV	04423	VOLTMETER AC	37					076	B	1991
	MR53W7500CVV	04423	VOLTMETER DC PORTABLE	39					077	B	1992
	MT-650	16764	ANALYZER ENGINE		32				117	B	3393
	MV288	85711	MICROVOLTMETER RF	40					079	B	1994
	M1	03782	VOLTMETER ELFC	37	39	29			076	B	1939
	M184-4	16469	GENERATOR SIGNAL	3	17				051	A	3276
	M185-4	16469	GENERATOR SIGNAL	18					106	A	3277
	M186-4	16469	GENERATOR RF POWER P I	18					106	A	3278
	M187-4	16469	GENERATOR RF POWER P I	15					107	A	3279
	M5-XB	04423	GENERATOR DUAL SIGNAL		3				048	A	1911
	NM-17/27	88869	METER EMI FIELD INTENSITY	43					043	C	1782
	NM-26T	88869	ELECTROMAGNETIC NOISE METER	43					043	C	1783
	NM-37/57	88869	METER EMI FIELD INTENSITY	44					043	C	1784
	N414A	C0929	METER FREQ	53					020	C	1781
	OIB-2	19482	IMPEDANCE BRIDGE HIGH FREQ	25					008	B	1562
	P-12	88416	VOLTMETER AC		85				073	D	3685
	P-3	29834	AMMETER AC	23					001	B	1995
	P-9300B	98438	VOLTMETER		39	29			077	B	1996
	PA-140C	79500	VOLTMETER PORTABLE TYPE AC		37	39			076	B	1998
	PA-151	88416	AMMETER	23					001	B	1999
	PA-5	89315	AMMETER AC	23					001	B	1997
	PFM 604B	C3927	METER FREQ	47					020	C	1785
	PG-32	24141	GENERATOR PULSE	4					050	A	1914
	PG-404	96238	PORTABLE PATTERN GENERATOR	34					067	B	2483
	PM-32	65054	MULTIMETER ELFC	29	28				032	B	1331

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

## US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP	LTR	TMDE ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
	PN-1600	08987	RESISTANCE BRIDGE	25					008	8	2000
	PSA-231	23369	ANALYZER SPECTRUM PLUG IN	67					061	C	1603
	PT-8L	89954	VOLTMETER AC		37	29	39		076	8	3686
	PX151	79500	VOLTMETER PORTABLE		39	29			077	8	2026
	PX4	88416	AMMETER DC		24				003	8	2024
	PX5	79500	VOLTMETER DC	39	29				077	8	2025
	PX936496	79500	VOLTMETER PORTABLE DC	39	38				077	8	2027
	P347A	28480	GENERATOR THERMAL NOISE	13					055	A	1913
	P532A	28480	METER FREQ	55					020	C	3282
	P7006	77327	GENERATOR SIGNAL P I	15					107	A	3283
	RCD 20006	23405	OSCILLATOR DUAL PHASE		4				050	A	3287
	RD-152	80740	METER PH		30	31			035	8	2172
	RD2521-20	06743	RECORDER ANALOG	98					084	E	1552
	RD25522-20	96795	RECORDER DUAL CHANNEL	92					036	E	1553
	RR-139-X	86270	T S CURRENT RESISTANCE SEMIAUTOMATI	29					029	8	2028
	RS-3	15566	MULTIMETER		28	23			032	8	1303
	RS-3A	15566	MULTIMETER		28	23			032	8	1304
	RS-300	15566	METER AC VOLT AMMETER		28	23			001	8	1305
	R491	80009	ANALYZER SPECTRUM RACKMOUNTED	68					062	C	3284
	S-49M	28569	VOLTMETER AC	37					076	8	2029
	SA70A	03782	ANALYZER SPECTRUM	67					061	C	1605
	SA84WA	82199	ANALYZER SPECTRUM	68					062	C	1606
	SB7	03782	ANALYZER SPECTRUM	68					062	C	1607
	SER-5088	82386	TEST STAND GENERATOR LOAD		28	23			116	8	2491
	SH-1	04423	GENERATOR SWEEP	22					109	A	1916
	SID-558220	52674	T S FILTER ANTENNA		69	23			063	C	1306
	SID558209	64959	T S SWR IMPEDANCE		29	69			063	C	3100
	SPA 325A	03782	ANALYZER SPECTRUM	67					061	C	1609
	SPA-1 STYLE D	C3782	ANALYZER SPECTRUM		67	65			061	C	1608
	SP2280	11837	IMPEDANCE MEASURING SYSTEM	25					022	8	3292
	SP2979	11837	BRIDGE KELVIN		25				008	8	3293
	SS-117	33347	ANALYZER SWEEP CKT		79				068	D	1917
	S7006	77327	GENERATOR SIGNAL P I	11					053	A	3290
	T-4	88273	TRACER SIGNAL		28	81			118	E	2496
	TDS-2	55026	T S TACHOMETER DWELL		32				117	8	3403
	TDT-12	82386	TACHOMETER DWELL	32					117	8	3404
	TF 1026/1	09335	METER FREQ	50					020	C	1791
	TF 1026/2	09335	METER FREQ	51					020	C	1792
	TF 1026/3	09335	METER FREQ	52					020	C	1793
	TF 1026/4	09335	METER FREQ	52					020	C	1794
	TF-1066A	09553	SIGNAL GENERATOR	18					106	A	1612
	TF-1245	09553	Q METER		93				042	E	1558
	TF-1247	09553	OSCILLATOR	18					106	A	1920
	TF-2300-1	09553	METER AM FM MODULATION		57				031	C	1614
	TF-2300A	09553	METER MODULATION AM/FM		57				031	C	1613
	TF-7910	09553	METER CARRIER DEVIATION		57				031	C	1610
	TF-934	09553	METER DEVIATION FM	57					031	C	1611

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GR	LTP	TMDE IO NO.
				FUNCTIONALLY COMRATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
	TF1D66/B6	09553	GENERATOR SIGNAL	18					106	A	1919
	TG-501	80009	TIME MARK GENERATOR		4				050	A	1795
	TLCG-100K	91161	WATTMETER CALORIMETRIC		42				010	C	1796
	TO-5	56289	BRIDGE CAPACITANCE		25				011	B	1307
	TD-700542	06840	TEST CONSOLE BASIC	29					032	B	3140
	TT-125	04071	TESTER TUBE IMAGE		36				072	B	2503
	TTI-11033	50137	T S TRANSMISSION	81					071	O	2363
	TTI-1110A	50137	T S TELEPHONE		73				071	D	2364
	TTI-1140	50137	T S TELEPHONE	81					071	D	2365
	TTI-1200	50137	T S RHASE JITTER	78					037	O	2366
	TTS-2R	06819	MEASURING SET	28					032	B	3683
	TTS-48NH	06819	TELEPHONE TEST SET		81	73			071	D	2362
	TTS-56	06819	GENERATOR NOISE	14					055	A	1924
	TVDM-3	25778	METER OHM		28				032	B	1308
	U-SP(MOD)	03782	MULTIMETER	29					032	B	1309
	UP	54085	MICROAMMETER		23				003	B	2031
	U661155	77327	MULTIPLIER FREQ	12	5	6	7		053	A	3317
	V-130M	12365	VOLTMETER	37					076	B	2032
	VA-35	88416	VOLTMETER AC		37	28			076	B	3693
	VAT 26	82386	MULTITESTER GENERATORS & REGULATORS		23	28			116	B	3409
	VZM-3	04598	SET DISTORTION MEASURING		74				014	D	1616
	W-3		ANALYZER IMPEDANCE COMPONENT		60				038	C	1550
	WA44C	49671	GENERATOR SIGNAL AUDIO FREQ	1					006	A	1875
	WC-1217-4N	16786	METER FREQ	52					020	C	1797
	WDA3712	16786	METER WAVE	53					020	C	3318
	WR-515A	02734	MASTER CHFO-BAR GENERATOR/SIGNALYST	80					068	D	1876
	WV-98C	49671	MULTIMETER		28				032	B	1310
	X1	03626	MULTIMETER DIGITAL		39	29			032	B	1311
	X2	03626	MULTIMETER DIGITAL	39					032	P	1312
	X347A	28480	NOISE SOURCE	13					055	A	1877
	X410A	00929	METER FREQ	53					020	C	1798
	X532A	28480	METER FREQ	53					020	C	1799
	Y551	28480	WAVEMETER	53					020	C	1750
	YTW-3	13688	ANALYZER INDUSTRIAL TUBE		36				072	B	2456
	Y410A	00929	METER FREQ	54					020	C	1751
	ZB-2A	80740	BRIDGE IMPEDANCE		25				011	B	1314
	O-1	88416	CHMMETER PORTABLE	27					029	B	2033
	O-53 AMRS	33333	AMMETER AC	23					001	B	2034
	O-750 AMPS	33333	AMMETER DC		24				003	B	2036
	1-500	62973	VIBRATION TESTER	97					111	E	2187
	1C	62973	VIBROMETER		97				111	E	2186
	1G115	03782	MICROWAVE IMPULSE SOURCE		13	14			012	A	1878
	1L10	80009	ANALYZER SPECTRUM PLUG IN	67					061	C	1617
	1L20	80009	ANALYZER SPECTRUM PLUG IN	68					062	C	1618
	10	09435	VOLTMETER ELEC	40					080	B	3338
	10-VA-D	01072	TESTER VIBRATION	97					111	F	2190
	1004	80138	OSCILLATOR MEG A SWEEP		22	20	19		109	A	1892

## PART II TMOE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMOE TO OTS ETC SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GP LTR	TMOE IO NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	PARTIALLY COMPATIBLE NO.2	PARTIALLY COMPATIBLE NO.3	PARTIALLY COMPATIBLE NO.4			
	100VP-D	01072	TESTER VIBRATION	97					111	E	2197
	1000-SC	34532	TESTER VIBRATION	97					111	F	2218
	1003	24655	GENERATOR SIGNAL						051	A	1652
	10046503	18876	OSCILLATOR RADIO FREQUENCY	3	18	17			051	A	1597
	1007	15566	MULTIMETER		28				032	B	1378
	101	15933	PULSE GENERATOR	4					050	A	1883
	101	89497	MULTIMETER BLASTING		29	39			032	B	1322
	101-58F	98202	TESTER IGNITER CKT CONTINUITY	28					118	E	1323
	1018	16152	COUNTER TIMER	76	82				023	O	2198
	10111154	18876	VOLTMETER ELEC	41					080	B	2055
	1013	82199	GENERATOR PULSE	4					050	A	1874
	10167653	80053	DIGITAL MULTIMETER	40					079	B	1444
	10178145	04164	MULTIMETER DIGITAL		39				078	B	1445
	10182039	04164	GENERATOR SIGNAL	3					051	A	2095
	10182651	04164	GENERATOR THERMAL NOISE	13					055	A	2096
	10182653	04164	GENERATOR MULTIFUNCTION	2					047	A	2097
	10182657	04164	GENERATOR PULSE	4					050	A	2098
	10188462	18876	MULTIMETER DIGITAL	39					078	B	1450
	102A	04901	GENERATOR SIGNAL	18					106	A	1630
	10215019	18876	CALIBRATOR ASSY SOUND LEVEL	71					112	O	2406
	1022C	80009	OSCILLATOR BEAT FREQUENCY	1					006	A	1653
	1050	28009	WHEATSTONE BRIDGE		25	30	26		008	B	1926
	10525A	28480	LOGIC PROBE		77				027	D	2701
	10528A	28480	LOGIC CLIP		77				027	O	2702
	10529A	28480	LOGIC COMPARATOR		77				027	O	2703
	106 TYPE 2	80009	GENERATOR SQUARE WAVE	2					054	A	3340
	10668/6	09553	GENERATOR SIGNAL FM	18					106	A	1825
	107	80009	SQUARE WAVE GENERATOR	2					054	A	1884
	1080	28009	WHEATSTONE BRIDGE HIGH PRECISION		25	27			008	B	1379
	109	80009	GENERATOR PULSE		4				054	A	1885
	1104118-1	18876	OHMMETER LOW RESISTANCE		30				035	B	2058
	1105A	28480	GENERATOR PULSE		4				050	A	2562
	1107	82199	GENERATOR MODULAR MICROWAVE SIGNAL		6	7			053	A	1826
	111	55026	VOLTMETER	39	29				077	B	2040
	1120	04423	GENERATOR SWEEP		22	20	19		109	A	1886
	1142A	24655	METER/DISCRIMINATOR FREQ	48					020	C	1709
	1144A	24655	DIGITAL FREQ METER		48	49			020	C	3553
	116 VCC	23338	GENERATOR PHASE LOCK FUNCTION	2					047	A	1887
	12-B	14140	MEASURING SET TELEPHONE TRANSMISSION	81					071	O	2369
	12L1	06424	FREQ METER	52					020	C	3554
	1200	88273	TESTER ELEC TUBE		36				072	B	2521
	1201A	50137	MONITOR HIT	78					037	O	2223
	12058F	82199	MODULAR MICROWAVE SIGNAL SOURCE	16					107	A	1713
	1205F	82199	SIGNAL GENERATOR MICROWAVE	16					107	A	1827
	12088	24655	OSCILLATOR UNIT	18					106	A	1654
	12108	24655	OSCILLATOR	1					006	A	1828
	1212A	24655	DETECTOR NULL		25				008	B	1714



## PART II TMOE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMOE TO OTS ETC SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP CODE	LTR	TMOE IO NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
	1215B	24655	OSCILLATOR UNIT	18					106	A	1829
	1217C	24655	GENERATOR PULSE	4					050	A	1830
	122001	89944	TESTER THREE STAGE		36				072	B	2711
	1223	94668	METER POWER	62	61				040	C	3647
	123A	28569	T S ELECTRON TUBE	36					072	B	2480
	124K	80164	VOLTMETER AC	37					076	B	2041
	126B	94668	VOLTMETER FREQ SELECTIVE	70					110	C	2043
	127C	94668	METER LEVEL FREQ SELECTIVE		70	86			110	C	2044
	12890	91547	VIBRATION ANALYZER ENGINE		28				111	B	2052
	129B	94668	VOLTMETER FREQ SELECTIVE		70	86			110	C	2045
	1290		INDUCTANCE STANDARD	FRE	25				024	B	3493
	1294012	79500	T S INSULATION BREAKDOWN	26					025	B	1442
	13-3	14100	T S PULSING LIMITS		73				122	D	2371
	1307A	24655	OSCILLATOR AF	1					006	A	1832
	1310B	24655	OSCILLATOR		1	3			006	A	1656
	1311A	24655	OSCILLATOR AUDIO	1					006	A	2563
	132A	13488	GENERATOR PULSE	4					050	A	1889
	134A	21461	OSCILLATOR AUDIO RF		1	3			006	A	3341
	1346	24655	MICROVOLTER AUDIO FREQ		37	29			076	A	1927
	136X	7706B	TESTER CAPACITOR HI-PO		26				025	B	1324
	139B	13488	GENERATOR PULSE		4				050	A	1890
	1400	31946	VOLTMETER DC	39					077	B	1928
	1400	31946	AMMETER DC	24					003	B	1929
	1410	65092	ANALYZER FREQUENCY RESPONSE	2					047	A	1657
	1415-UB	92434	METER SPOT BRIGHTNESS		90				119	E	1716
	1477	29318	MULTIMETER		29	24			032	B	1380
	1501/323	80009	REFLECTOMETER TIME-DOMAIN	88					009	E	1381
	1502	80009	TIME-DOMAIN REFLECTOMETER	88					009	E	1382
	1531AB	24655	TACHOMETER STROBSCOPE	95					065	E	1717
	153B-A	24655	STROBSCOPE	95					065	E	1718
	155	65092	AMMETER AC	23					001	B	2046
	1551C	24655	METERS LEVEL		87				004	E	2569
	1553-9701	24655	METER VIBRATION		97				111	E	2224
	1558A	24655	ANALYZER NOISE AUDIO FREQUENCY	65					059	C	1661
	1580A	28480	SAMPLER NARROW BAND TOR		88				009	E	1383
	160	55026	MULTIMETER	28					032	A	1325
	1601L	28480	ANALYZER LOGIC STATE	77					027	O	2522
	1604A	24655	COMPARATOR IMPEDANCE		25				008	B	1474
	1610-B2	24655	CAPACITANCE MEASURING ASSEMBLY	25					011	B	1384
	1611A	24655	BRIDGE CAPACITANCE	25					008	B	1385
	1615AM	24655	CAPACITANCE BRIDGE	25					011	B	2570
	1620	73386	MEG OHMMETER	27					029	B	1930
	1620-R	73386	MEG OHMMETER		27	26			025	B	1386
	1620A	24655	CAPACITANCE MEASUREMENT SYSTEM	25					011	B	2571
	1632	24655	BRIDGE INDUCTANCE	25					024	B	2572
	164A	94668	WATTMETER	62	61				082	C	1767
	1644A	24655	OHMMETER BRIDGE		26	27			035	B	1387

J-64

## PART II TMOE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETC SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GP LTR	TMDE IO NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	PARTIALLY COMPATIBLE NO.2	PARTIALLY COMPATIBLE NO.3	PARTIALLY COMPATIBLE NO.4			
	1645A	28480	ANALYZER DATA ERROR	72					013	D	1662
	1650R	24655	BRIDGE IMPEDANCE	25					008	B	1475
	1652A	24655	BRIDGE RESISTANCE	25					008	B	1931
	167	80164	MULTIMETER AUTORANGING DIGITAL	29	28				032	B	1326
	17-23-3	30120	TESTER PRECISION TACHOMETER	32					117	B	2464
	1709A	82199	SIGNAL GENERATOR	8					053	A	1836
	1710A	82199	SIGNAL GENERATOR	9					053	A	1837
	178-C	83490	TESTER INSULATION LEAKAGE		26				025	B	1327
	18-20017	89944	TESTER TUBE ONE STAGE		36				072	B	2465
	18-20018	89944	TESTER TUBE THREE STAGES		36				072	B	2466
	18008	24655	VOLTMETER ELECTRONIC		37		39		076	B	1933
	1806A	24655	VOLTMETER ELECTRONIC		28	29			032	B	1624
	1820016	89944	TESTER TUBE ONE STAGE IMAGE		36				072	B	2714
	185A	30669	GENERATOR SQUARE WAVE AND ELEC SWIT		2				054	A	1896
	185008	59899	GENERATOR SIGNAL	16					107	A	2581
	1862/BS1	24655	OHMMETER	26					025	B	1389
	1862A	24655	OHMMETER ELECTRONIC	26					025	B	1934
	1862B	24655	MEGOHMMETER	26					025	B	1390
	1862C	24655	MEGOHMMETER	26					025	B	1391
	1864	24655	MEGOHMMETER	26					025	B	1392
	1864-9700	24655	MEGOHMMETER	26					025	B	1393
	1890	49673	GAUSSMETER	89					021	E	1722
	190A	80009	GENERATOR SIGNAL		3	1			051	A	1632
	190A	28480	Q METER		93				042	E	1525
	190B	80009	GENERATOR SINE WAVE		3	1			051	A	1897
	1920A	28480	GENERATOR PULSE		4				050	A	1838
	1933-9714	24655	ANALYSIS SOUND SYSTEM		87				004	E	1723
	195A	49671	MULTIMETER		28	29	39		032	B	1328
	1965	49673	GAUSSMETER		89				021	E	1724
	200	80164	VOLTMETER ELEC	28					032	B	1329
	200A	28480	AUDIO OSCILLATOR	1					006	A	1633
	200B	80164	VOLTMETER AC OC		37	29			076	B	1975
	200C0	28480	OSCILLATOR AUDIO	1					006	A	3343
	200J	28480	OSCILLATOR AF	1					006	A	1898
	2000-1	04423	GENERATOR SWEEP		22	20	19		108	A	1839
	2005	08098	VOLTMETER	37					076	B	1935
	2006	27593	VOLTMETER HETERODYNE		48	49	50		020	C	2099
	2007	27591	VOLTMETER		40	38			079	B	1936
	201	04237	MULTIMETER PORTABLE		28				032	B	1330
	201	16152	VOLTMETER OC		39				077	B	2001
	201CR-C60	28480	OSCILLATOR AUDIO	1					006	A	1634
	2019	03626	DIGITAL MULTIMETER	29					032	B	3704
	202-1	90101	METER PHASE	60					038	C	1526
	202A	28480	GENERATOR SIGNAL		2				047	A	3345
	202B	05157	VOLTMETER		39				077	B	2002
	202B	28480	CONVERTER FREQ		3	1			051	A	1759
	202CR	28480	GENERATOR SIGNAL	1					006	A	3346

## PART II TMOE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMOE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFP. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GP LTP	TMOE IO NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
	202E	28480	GENERATOR SIGNAL	18					106	A	1635
	204C	28480	OSCILLATOR AUDIO		1				006	A	1636
	208A	28480	OSCILLATOR ELECTRONIC	1					006	A	1637
	21J1052	07239	TESTER INSULATION MEGGER		26	27			025	B	1315
	210	80164	ELECTROMETER	39					077	B	2003
	211A	28480	GENERATOR SIGNAL	18					106	A	1638
	2115B	07239	OHMMETER LOW RESISTANCE		26	27			025	B	1437
	212A	07342	VOLTMETER PHASE ANGLE	83	84	85			073	O	1331
	2133	28480	GENERATOR PULSE	4					050	A	1850
	214A	28480	GENERATOR PULSE	4					050	A	3348
	214A-C38	28480	GENERATOR PULSE		4	2			050	A	3253
	216A	28480	GENERATOR PULSE		4				050	A	1851
	218AR	28480	GENERATOR DIGITAL DELAY		4				050	A	1852
	219	77327	DETECTOR VSWR	69					063	C	3349
	222A	28480	GENERATOR PULSE	4					050	A	1853
	225-01-52638	52638	T S GENERATOR & VOLTAGE REG AUTO		28	23			116	B	3453
	230	55026	MULTIMETER	28					032	B	1332
	231B	11837	WHEATSTONE BRIDGE		25				008	B	1333
	240	93346	T S SEMICONDUCTOR	94					045	E	2508
	24421	03626	MULTIMETER ASSEMBLY	39	29				032	B	1438
	2470-350	49673	CHAPTER MAGNET		89				021	E	2101
	25	04773	SIGNAL TEST SET		73				122	D	2372
	250	05606	INDICATOR PHASE ANGLE	60					038	C	1530
	250-A	04901	METER RX		25				022	B	1334
	255	04237	VIBROGROUND		31	28			035	B	2004
	260-A	04901	Q METER		93				042	E	1531
	260-5	55026	MULTIMETER		28	37			032	B	1336
	261C	14031	MULTIMETER DIGITAL	29					032	B	1337
	2657A	28480	OSCILLATOR SYNCHRONIZER		16	12	5	6	053	A	1667
	269	04237	TESTER VIBROTEST	27					029	B	2005
	27-37	01216	TESTER ALTERNATOR VOLT AMP		28	23			116	E	3519
	27-55	01216	SCOPE ANALYZER	32					117	B	3520
	27-83	01216	TACHOMETER DWELL	32					117	B	3521
	2700	09553	BRIDGE UNIVERSAL IMPEDANCE	25					008	B	1487
	280	04237	TESTER GROUND RESISTANCE	31					035	B	1339
	290-A-MOD	11837	IMPEDANCE BRIDGE	25					008	B	3350
	2901	80009	GENERATOR TIME MARK	4					050	A	1840
	291A	06424	METER FREQ	48					020	C	1770
	291B712A17	79500	VOLTMETER AC	37					076	B	2006
	297A	28480	SWEEP OPIVE	86					075	O	1855
	300	96641	T S SEMICONDUCTOR DEVICE	94					045	E	3051
	300M	50423	VOLTMETER ELEC		37				076	B	2007
	300U27	01216	TESTER CAPACITOR	25					011	B	3186
	301 SEPIES G	64359	TEST STAND AUTO GENERATOR & STARTER		28	23			116	E	3454
	301A	07342	VOLTMETER		85	83	84		074	O	2009
	302A	28480	ANALYZER WAVE	86					075	O	1639
	303	55026	MULTIMETER		28				032	B	1340

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURCHASE TMDE TO DTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GR LTR	TMDE ID NO.
				FUNCTIONALLY COMPARATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
	305	94668	COMM TRANSMISSION MEASUREMENT SYSTE		70	86	66	64	110	C	2433
	305A	94668	TRANSMISSION MEASUREMENT SYSTEM		70	86	66	64	110	C	2380
	31T-1875	86270	T S STATIC TUBE		36				072	B	2470
	310	60741	MULTIMETER		28				032	B	1341
	310	65092	WATTMETER		61	62			039	C	1771
	310A	50423	VOLTMETER		37				076	B	3353
	310A-S2	50423	VOLTMETER		37				076	B	3354
	310B-S2	50423	VOLTMETER ELEC		37				076	B	3355
	310C	60741	MULTIMETER		28	23			032	B	1343
	311	55026	METER VOLT OHM		28				032	B	1344
	313	55026	MULTIMETER		28	37	26	27	032	B	1345
	313A	28480	OSCILLATOR TRACKING		64				056	C	1640
	315A	11837	RRIOGE IMREDANCE	25					008	B	3592
	316S2	50423	VOLTMETER		37				076	B	2011
	3202R	28569	SYSTEM DIGITAL MEASURING		39	26			077	B	1939
	322A	15859	OSCILLOGRAPH	91	92				036	E	1536
	323	50423	VOLTMETER ELEC	41					080	B	2012
	330	05624	POTENTIOMETER		37	39			076	B	2013
	330	21354	ANALYZER DYNAMIC VIBRATION BALANCER		97				111	E	1772
	330B-501	28480	AUTOMATIC SYNTHESIZED		20	19			052	A	1843
	3301A	28480	AUXILLARY P I	2					047	A	1841
	3310A	28480	GENERATOR FUNCTION	2					047	A	1842
	334A	28480	ANALYZER DISTORTION	74					014	O	3359
	335A	89536	CALIBRATOR VOLTMETER		38				121	B	3456
	339	65092	METER FREQ		47	48			020	C	1773
	340B	28480	METER NOISE FIGURE		13	14			033	C	1774
	3400A-Y10	28480	VOLTMETER RMS	41					080	B	2574
	3403C	28480	VOLTMETER TRUE RMS		41				080	B	1940
	341	65092	VOLTMETER AC OC		41				080	B	2014
	3430A	28480	VOLTMETER DIGITAL	29					078	B	1942
	3439A-C-28	28480	VOLTOHM MILLIAMMETER MAINFRAME DIGI	29					032	B	1292
	344A	28480	METER NOISE FIGURE	13					033	C	1725
	3443A	28480	VOLTMETER R I UNIT	39					077	B	1943
	3444A	28480	DC MULTIFUNCTION UNIT	29					032	B	1395
	3444A-C15	28480	P I UNIT ELFC TEST EQUIP	29					032	B	1291
	3445A	28480	VOLTMETER P I UNIT	29					076	B	1944
	3445A-C06	28480	AC OC RANGE R I UNIT	29					032	B	1978
	3446A	28480	VOLTMETER RANGE EXTENDER	39					076	B	1945
	3450A	28480	MULTIMETER	39					032	B	1396
	3450B	28480	MULTIFUNCTION METER	29					032	B	1397
	34500	92110	GENERATOR PULSE		4				050	A	1844
	3460B-H23	28480	VOLTMETER DIGITAL		39				078	B	1985
	3469B	28480	MULTIMETER DIGITAL		29	24			032	B	1338
	3470A	28480	MEASUREMENT SYSTEM	39					078	B	1399
	3480A	28480	VOLTMETER DIGITAL	39					078	B	1946
	3480C	28480	DIGITAL VOLTMETER MAINFRAME	39					078	B	1400
	3490A	28480	MULTIMETER DIGITAL	39					078	B	1401

J-67

## PART II TMOE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMOE TO OTS ETE SPECIFICATION

TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)				FAMILY CODE	GP LTR	TMOE IO NO.	
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3				NO.4
	350334	57312	T S ELECTRON TUBE		36				072	B	2713
	355	50423	VOLTMETER AC DC		37	29			076	B	2015
	3570A-101	28480	NETWORK ANALYZER	65					059	C	1669
	3575A	28480	GAIN/PHASE METER	60					038	C	1488
	3591A	28480	VOLTMETER FREQ SELECTIVE	70	86	65			110	C	1947
	3594A	28480	OSCILLATOR SWEEPING LOCAL PLUG IN		65	67	86		059	C	1671
	36C	30119	TESTER INSULATION		26	27			025	B	1317
	36FE		TACHOMETER PHOTO	32					117	B	1752
	360B	14506	MULTIMETER DIGITAL	29	28				032	B	1346
	362	55026	OHMMETER	30					035	B	1347
	369A9801	02731	ANALYZER VIBRATOR		97				111	F	3458
	373	55026	MILLIAMMETER	23					001	B	3739
	3737A	28480	DOWN CONVERTER P I	56					030	C	3719
	3860A	21793	MULTIMETER DIGITAL	39					032	B	1402
	400EL	28480	VOLTMETER	37					076	B	2062
	400FL	28480	VOLTMETER ELECTRONIC	37					076	B	2063
	400HR	28480	VOLTMETER ELEC	37					076	B	3361
	404	92110	MICROWAVE SWERT SIGNAL GENERATOR	21					049	A	1857
	404	80053	DISCRIMINATOR FREQ		47				020	C	1726
	4045	04237	TESTER INSULATION BREAKDOWN	26					025	B	1403
	405BR	28480	VOLTMETER DIGITAL	39					077	B	2064
	406A	98278	OSCILLATOR	18					106	A	1858
	41-001	30119	T S PORTABLE HI-POT		26	27			025	B	1318
	41-132	38474	VOLTMETER DC	39	28	29			077	B	2037
	412	80164	AMMETER DC		24				003	B	2065
	414A	28480	AUTOVOLTMETER		29	39			077	B	3569
	415	08098	GENERATOR SWEEP/MARKER	79					068	O	1859
	415-Y10E	28480	METER STANDING WAVE RATIO	69					063	C	3320
	416A	28480	INDICATOR STANDING WAVE RATIO	69					063	C	1349
	417	80164	AMMETER		24				003	B	2016
	417-29	80164	AMMETER MICRO MICRO	24					003	B	2017
	419A	28480	VOLTMETER DC NULL		39	29			077	B	1350
	4204A	28480	OSCILLATOR DIGITAL	1					006	A	1845
	425A	28480	AMMETER DC MICROVOLT		39	24	29		077	B	1351
	425AR	28480	AMMETER DC MICROVOLT		39	24	29		077	B	1352
	427A	28480	MULTIMETER		28	37			032	B	1353
	4271	31922	BRIDGE RESISTANCE		25				008	B	1405
	428A	28480	MILLIAMMETER		23				001	B	2018
	4285	31922	BRIDGE RESISTANCE		25				008	B	1948
	430	65092	MILLIVOLT-AMMETER DC		29	39	24		032	B	1354
	430	65092	MILLIVOLTMETER DC		29				077	B	2021
	430	65092	VOLTMETER AC		37				076	B	0559
	430B	28480	METER POWER	63					041	C	1728
	432A	28480	METER POWER	63					041	C	1729
	432B	28480	METER POWER	63					041	C	1730
	4324	21793	MULTIMETER DIGITAL	29					032	B	1406
	433	65092	VOLTMETER AC	37					076	B	2022

## PART 11 TMOE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMOE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP CODE	LTR	TMOE 10 NO.
				FUNCTIONALLY COMPARATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
	433-1906092	65092	VOLTMETER PORTABLE AC		37				076	B	1954
	433A	65092	VOLTMETER AC	37					076	B	1950
	433A	65092	AMMETER AC	23					001	B	1951
	433B	65092	VOLTMETER AC	37					076	B	1952
	433B	65092	AMMETER AC	23					001	B	1953
	434A	28480	CALORIMETER OIL TYPE 10 WATTS	42					010	C	1731
	435A	28480	METER POWER	63					041	C	1732
	440-AR	88865	OSCILLATOR RUSHBUTTON		1	2			006	A	1850
	440A	88865	OSCILLATOR AUDIO FREQ		1				006	A	1879
	444J	29318	MULTIMETER	29					032	B	1437
	445A	28569	MULTIMETER		28	23			032	B	1355
	450	11332	WATTMETER		63				041	C	1734
	454A	11332	POWER METER RADIO FREQ	63					041	C	3678
	470A-1000	94668	GENERATOR SIGNAL		15	17			107	A	1642
	470A-1800	94668	GENERATOR SIGNAL	16					107	A	1851
	4735	31922	BRIDGE RESISTANCE		25	26			008	B	1438
	4800	21793	VOLTMETER DIGITAL	39					078	B	1409
	481	03626	VOLTAGE DIGITAL	39					078	B	1955
	4815A	28480	METER RF VECTOR IMPEOANCE	84					073	D	1490
	484A	03626	VOLTMETER DIGITAL	39					078	B	1956
	4910R	28480	LOCATOR OPEN FAULT		88				009	E	1411
	4940A-01	28480	SET MEASURING TRANSMISSION IMPAIRME	82					014	D	1680
	500-01	13643	VOLTMETER DIGITAL	39	29				078	B	1957
	500B	28480	METER FREQ		48				020	C	1735
	500BP	28480	METER FREQ		48				020	C	3364
	500C	28480	FREQUENCY METER		32				117	B	3548
	5000-S-2351	21793	VOLT-OHMMETER	39					078	B	1413
	5011T	28480	LOGIC TROUBLESHOOTING KIT		77				027	O	2545
	501905	57424	MULTIMETER	28	29	39			032	B	1441
	5024	20905	T S STABILITY	44					020	C	2134
	5048	10597	GENERATOR WAVEFORM	2					047	A	1852
	50708	80138	GENERATOR PULSE		4				050	A	2576
	5105A/5110B	28480	SYNTHESIZER FREQ		1	3	17	18	106	A	1846
	5110A	28480	METER FREQ		43				020	C	2135
	5110B	28480	SYNTHESIZER DRIVER		1	3			051	A	1847
	518	49932	VOLTMETER ELECTROSTATIC		28				076	B	1958
	5305	31922	WHEATSTONE BRIDGE		25				008	B	1414
	533	28569	T S ELEC TUBE	36					072	B	2513
	536A	28480	WAVEMETER ABSORPTION TYPE		49	50	51	52	020	C	2802
	5400	21793	MULTIMETER	39	29				032	B	1415
	5430A	31922	BRIDGE RESISTANCE	25					008	B	1949
	5600	21793	VOLTMETER DIGITAL	39					078	B	2577
	564	65092	OHMMETER VOLT	28					032	B	1356
	5640	21793	MULTIMETER DIGITAL	39	29				078	B	1416
	5703S2127	21793	VOLTMETER DIGITAL RATIO METER	29	39				078	B	2578
	575	80009	OSCILLOSCOPE TRANSISTOR CURVETRACER		94				045	E	2514
	576	80009	TRACER SEMICONDUCTOR CURVE		94				045	E	2515



## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)				FAMILY GP CODE	LTR	TMDE NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4		
	587A	77327	METER FREQ		50	51		020	C	3365
	59	14140	METER GRID DIP		43	44		020	C	1763
	5900	21793	MULTIMETER DIGITAL	39				078	8	1417
	600	60741	VOLT-OHMMETER	28	29	39		032	8	1357
	6000	28569	T S ELEC TUBE	36				072	8	2530
	6000A	28569	T S ELEC TUBE	36				072	8	2694
	6043-1A1061094	77820	TESTER AC-DC INSULATION		26			025	8	1358
	6063	28480	GENERATOR SIGNAL		3	18	17	051	A	1643
	608CR	28480	GENERATOR SIGNAL VHF	18				106	A	3366
	608CR(MOD)	28480	GENERATOR SIGNAL VHF	18				106	A	3367
	608D	28480	GENERATOR SIGNAL	18				106	A	1744
	608E	28480	GENERATOR SIGNAL VHF	18				106	A	1863
	61	70998	WATTMETER RF THERMALINE	61				040	C	1764
	610FH	03438	ANALYZER CKT		28			118	E	1359
	611	70998	WATTMETER RF ABSORPTION	61				040	C	1745
	612	70998	WATTMETER RADIO FREQ	61				040	C	1746
	6163	28480	GENERATOR SIGNAL	5	6			053	A	1644
	617	54294	BRIDGE RESISTANCE		30	31		035	8	1959
	6183R	28480	GENERATOR SIGNAL	6	12			053	A	1864
	618C	28480	GENERATOR SIGNAL	6	12			053	A	1645
	622	65092	VOLTMETER DC		28			077	8	1960
	6254-5	13222	GENERATOR SIGNAL		4			050	A	1848
	63GH00	24446	METER INSULATION	26				025	8	1319
	630	60741	VOLT-OHM-MILLIAMMETER	28	29	39		032	8	1360
	6300	70998	WATTMETER THERMAL RF	42				010	C	2119
	631	60741	MULTIMETER ELEC	28				032	8	1361
	633	65092	AMMETER		23			002	8	1961
	633VA1	65092	MULTIMETER		28			032	8	1362
	639 TYPE 3	65092	T S ELECTRICAL POWER		28	23		039	C	1749
	6413	03782	OSCILLATOR SWEEP	21				109	A	1646
	641K	03782	GENERATOR SWEEP	21				109	A	1856
	650	55026	TESTER TRANSISTOR	94				045	E	2516
	650AP-C03	28480	GENERATOR SIGNAL	1				006	A	1900
	651A	28480	TEST SET OSCILLATOR	1				006	A	1647
	651B	28480	OSCILLATOR TEST	1				006	A	1857
	651B-01	28480	OSCILLATOR TEST	1				006	A	1648
	660	18479	GAUSSMETER	89				021	E	3358
	666H	60741	MULTIMETER	28	29	39		032	8	1364
	666HH	60741	MULTIMETER	28	29	39		032	8	1365
	666RW669RL	60741	MULTIMETER	28	29	39		032	8	1418
	679	07239	MEG OHMMETER	27				029	8	1366
	680	28480	RECORDER COORDINATE DATA STRIP CHAR	91	92			064	E	3369
	686A	28480	SWEEP OSCILLATOR	21				049	A	1859
	689	65092	CHMMETER		29	39	28	035	8	1952
	694C	28480	OSCILLATOR SWEEP	21				049	A	1870
	694C-H01	28480	OSCILLATOR SWEEP	21				049	A	1905
	7L13	80009	ANALYZER SPECTRUM	67				061	C	1627

J-70



## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO DTS ETC SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP CODE	LTP	TMDE ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
	7000	96662	AMMETER AC VOLT	28	29	39			032	8	1419
	7001AR	28480	RECORDER X-Y	98					084	E	1447
	7003	51417	ANALYZER ERROR BIT	72					013	D	1682
	7035A	28480	RECORDER X-Y	98					084	E	1448
	704 HSR	55800	VOLTMETER	37					076	8	1963
	7040	79409	TESTER IMPEDANCE GROUNDLOOP	25					022	O	1420
	7050	06811	MULTIMETER	29	39				032	B	1421
	707-S1	12678	ANALYZER SPECTRUM	68	67				061	C	1649
	71	14140	GENERATOR SQUARE WAVE	2					054	A	1881
	7100A	13989	VOLTMETER	39	29				078	8	1422
	7127	06811	GENERATOR SIGNAL TWO-TONE AUDIO		1				048	A	1683
	716C	24655	BRIDGE CAPACITANCE	25					011	8	1367
	72-439	07239	KELVIN BRIDGE		30	31			035	8	1320
	727	01113	SIGNAL LEVEL METER	37					076	8	1964
	7300A631	98438	MULTIMETER DIGITAL	39	29				032	8	2048
	7350A	80053	FREQ METER		48				020	C	3549
	739AR	28480	T S FREQ RESPONSE		1	3			051	A	1871
	740	23338	METER PHASE ANGLE	60					038	C	1514
	740B	28480	OC STANDARD DIFFERENTIAL VOLTMETER	38					121	8	1955
	7418	28480	VOLTMETER DIFFERENTIAL AC DC	38					121	8	1966
	750	04901	BRIDGE CAPACITANCE	25					011	8	1369
	750	49673	GAUSSMETER	89					021	E	1702
	750-S13B	33013	GENERATOR SIGNAL	18	17				106	A	1872
	7560085	19200	TESTER VIBRATION UNIVERSAL	97					111	E	2271
	7620	52860	T S SEMICONDUCTOR DEVICE		94				045	E	2696
	7630	98438	MULTIMETER DIGITAL	39	29				032	8	1423
	7661921	19200	TESTER VIBRATION	97					111	E	2283
	7676-1	07239	MEGOhmmeter	27					025	8	1424
	7679	07239	Ohmmeter	39					035	8	3560
	779	65092	MULTIMETER	28	29	39			032	8	1370
	780B	77327	GENERATOR SIGNAL AM/FM		3				052	A	1684
	784	03626	Ohmmeter DIGITAL	39					035	B	1371
	785	65092	MULTIMETER PORTABLE	28	29	39			032	8	1372
	79X931	24446	T S INSULATION BREAKDOWN	26					025	8	1321
	8CF1VBK	29834	VOLTMETER RECOPIING	98					084	E	1587
	8VP4	28569	T S CATHODE RAY TUBE	36					072	8	2460
	8000A-01	89536	MULTIMETER DIGITAL	29	39				032	8	1426
	80058	28480	GENERATOR PULSE		4				050	A	1849
	801	60741	MULTIMETER	28	29	39			032	8	1373
	803	89536	VOLTMETER ELEC PRECISION DIFFERENTI	38					121	8	2559
	803BR	89536	VOLTMETER DIFFERENTIAL	38					121	8	1967
	803D	89536	VOLTMETER ELEC	39					076	8	1968
	803DAG	89536	VOLTMETER ELEC	38					121	8	1969
	8100A	89536	MULTIMETER DIGITAL	39					032	8	1427
	8100A-W	12578	T S SOUND RECORDING	71					112	O	2325
	8100A-01	89536	MULTIMETER DIGITAL	39	29				032	8	1428
	8100B	89536	MULTIMETER DIGITAL	39	29				032	8	1429

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO DTS ETC SPECIFICATION

TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GR LTR	TMOE IO NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
	8120A	89536	MULTIMETER DIGITAL	39	29				032	8	1430
	8125A	89536	MULTIMETER	39	29				032	8	1431
	8151832	18876	GENERATOR RULSE	4					050	A	2093
	8174880	24617	MEGOhmmETER TESTER INSULATION	26					025	8	1443
	8200A	89536	VOLTMETER DIGITAL	29	39				078	8	1432
	8200A	89536	VOLTMETER DIGITAL	29	39				032	8	1425
	827X51	24446	MULTIMETER	28					032	8	1374
	8300A	89536	MULTIMETER DIGITAL	39	29				032	8	1433
	8350A	89536	MULTIMETER DIGITAL	39	29				032	8	1434
	836820	65054	MILLIAMMETER		24				003	B	2053
	8400A	89536	VOLTMETER DIGITAL	39	29				078	B	1435
	8405A	28480	VOLTMETER VECTOR	85					074	D	1436
	8407A	28480	ANALYZER NETWORK MAINFRAME		67				061	C	1685
	8410S OPT 210	28480	ANALYZER MICROWAVE NETWORK	68					062	C	1686
	8410S OPT 310	28480	ANALYZER MICROWAVE NETWORK	68					062	C	1687
	8412A	28480	DISPLAY PHASE-MAGNITUDE		67				061	C	1688
	8414A	28480	ROLAR DISPLAY		67				062	C	1689
	8445A	28480	RRESECTOR AUTOMATIC		68				062	C	1691
	850	60741	MULTIMETER	28					032	8	1375
	851A/852A	28480	ANALYZER SPECTRUM	68					061	C	1650
	851A/8551A	28480	ANALYZER SPECTRUM	68					062	C	3750
	853A-03	89536	MULTIMETER DIFFERENTIAL		38	39			032	8	1376
	8552A	28480	ANALYZER SPECTRUM IF SECTION RI	67					061	C	1693
	8552B/017	28480	ANALYZER SPECTRUM	68					062	C	3761
	8553A	28480	ANALYZER SPECTRUM	67	66				061	C	1695
	8554B	28480	SPECTRUM ANALYZER RF SECTION	67					061	C	1697
	8554L	28480	ANALYZER SPECTRUM TUNING SECTION	67					061	C	1698
	8554L-H06 8522A	28480	ANALYZER SPECTRUM PLUG-IN	67					061	C	1690
	8566309	19200	TESTER TUBE	36					072	B	2717
	8601A	28480	GENERATOR SWEEP	20					052	A	2069
	8620A	28480	SWEER OSCILLATOR	21					049	A	2070
	86220A	28480	SINGLE BAND R I	22					109	A	2083
	86230B OPT H80	28480	SINGLE BAND P I	21					049	A	2084
	86241A OPT H80	28480	SINGLE BAND R I	21					049	A	2085
	86242A OPT H80	28480	SINGLE BAND P I	21					049	A	2086
	86250B OPT H80	28480	SINGLE BAND P I	21					049	A	2087
	86260A OPT H80	28480	SINGLE BAND R I	21					049	A	2088
	8640A	28480	GENERATOR SIGNAL	18	17				106	A	1591
	8640B	28480	GENERATOR SIGNAL AM-FM	18	17				106	A	2071
	8640B-001	28480	GENERATOR SIGNAL	18	17				106	A	1593
	8654A	28480	GENERATOR SIGNAL VHF	18					106	A	1594
	8660B-001	28480	SYNTHESIZED SIGNAL GENERATOR		1	3	17	15	107	A	2073
	86601A	28480	RF SECTION		1	3	17		051	A	2089
	86602A	28480	RF SECTION		15	16			107	A	2090
	86602B	28480	P I UNIT RF SECTION		3	18	15		051	A	3587
	86631B	28480	AUXILIARY SECTION		18	15	22		107	A	2091
	86632A	28480	MODULATION SECTION		18	15	22		107	A	2092

## PART II TMDE CRDSS-REFERENCE LIST

05/22/78

US ARMY GENERAL PURPOSE TMDE TO DTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP CODE	LTR	TMDE ID NO.
				FUNCTIONALLY COMPATIBLE ND.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
	8690A	28480	OSCILLATOR SWEEP		20	21	22		052	A	2074
	8693A	28480	RF UNIT		21				049	A	2075
	8695A	28480	GENERATOR SWEEP P I		21				049	A	2077
	8696A	28480	GENERATOR SWEEP RF P I		21				049	A	2079
	8697A	28480	GENERATOR SWEEP PF P I		21				049	A	3589
	8699B	28480	OSCILLATOR SWEEP P I		22				109	A	2030
	870	28569	TESTER TRANSISTOR AND DIODE	94					045	E	2518
	8708A	28480	GENERATOR SIGNAL P I SYNCHRONIZER		17	18	1	3	106	A	2081
	880	28009	VOLTMETER D C DIGITAL	39					077	B	3703
	885A	89536	VOLTMETER DC		38				077	B	1970
	887-ABAN	89536	VOLTMETER DIFFERENTIAL	38					121	B	2560
	887A	89536	VOLTMETER DIFFERENTIAL	38					121	B	1971
	890A	28569	TESTER TRANSISTOR	94					045	E	2519
	8900B	28480	CALIBRATOR PEAK POWER		61	63			040	C	2579
	8903B-H12	28480	OSCILLATOR SWEEP	21					049	A	1906
	891A	89536	VOLTMETER DIFFERENTIAL DC	38					121	B	1972
	893A	89536	VOLTMETER DIFFERENTIAL	38					121	B	1973
	901	51277	TESTER BIT ERROR RATE	72					013	D	2387
	901	50423	VOLTMETER DC	29	28				077	B	3701
	904A	77327	GENERATOR NOISE	13					055	A	1873
	9041	20944	TRANSM LEVEL & RETURN LOSS MEAS SET		81	82			071	D	2391
	906	28009	VISICORDER OSCILLOGRAPH RECORDER		91	92			036	E	3648
	906A	72264	OSCILLOGRAPH PECCORDER		91	92			036	E	1550
	90662	76487	METER GRID DIP	47					020	C	2448
	91HR57	04901	VOLTMETER RADIO FREQ SENSITIVE METER	40					079	B	2038
	910AR/AV	89536	METER V ELECTRIC	41					080	B	2561
	9142834	88600	GENERATOR PULSE	4					050	A	2094
	9180B	16655	POTENTIOMETER		38				077	B	2049
	93AD	04901	VOLTMETER TRUE RMS	41					080	B	2039
	931	65092	AMMETER DC		24				003	B	1925
	934	09553	METER FM DEVIATION	57					031	C	1651
	970A	28480	MULTIMETER DIGITAL	29	39				032	B	1377
	990	60741	T S INDUSTRIAL ANALYZER	28	29	39			032	B	2520
	9900	01113	SWEEP SYSTEM TEST SET	22					108	A	1596
AM-6681(V)1/U	8808A	28480	P I RECORDER	91	92				036	E	1461
AN/AAM-15	388-SL	55026	THERMOCOUPLE TEMPERATURE INDICATOR		96				070	E	3594
AN/ARM-26C	100190	87793	GENERATOR SIGNAL	18	17				106	A	0109
AN/GCM-4	J79901B2	64959	T S TELEPHONE	72					013	D	3542
AN/GGM-1	DAC-5	96238	T S TELETYPEWRITER	35	34	33			066	B	0145
AN/GGM-1A	DAC-V	96238	T S TELETYPEWRITER	35	34	33			066	B	0141
AN/GGM-11(V)	90067003-002	96238	T S TELETYPEWRITER	35	34	33			066	B	0147
AN/GGM-15(V)	9600	14031	T S TELEGRAPH	35	34	33			066	B	0148
AN/GGM-15(V)1	9600	14031	T S TELEGRAPH	35	34	33			066	B	0149
AN/GGM-15(V)2	9600PM	14031	T S TELEGRAPH	35	34	33			066	B	0150
AN/GGM-2	DAC-5	96238	T S TELETYPEWRITER	35	34	33			066	B	0142
AN/GGM-20	DTS-531A	31935	T S TELETYPEWRITER	35	34	33			066	B	0151
AN/GGM-43	DAC-5	96238	T S TELETYPEWRITER	35	34	33			066	B	0144

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFP. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP CODE	LTR	TMDE ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	PARTIALLY COMPATIBLE NO.2	PARTIALLY COMPATIBLE NO.3	PARTIALLY COMPATIBLE NO.4			
AN/GGM-4	DAC-5	96238	T S TELETYPEWRITER	35	34	33			066	B	0140
AN/GGM-5	DAC-5-E	96238	T S TYPEWRITER	35	34	33			066	B	0146
AN/GPM-15		82076	GENERATOR SIGNAL	4	3	18			050	A	0159
AN/GPM-15A	CA-748	82076	GENERATOR SIGNAL	4	3	18			050	A	0150
AN/GRM-50	606A	28480	GENERATOR SIGNAL		3	1	18	17	051	A	0174
AN/GRM-50A	11507A	28480	GENERATOR SIGNAL		3	1	18	17	051	A	0175
AN/GRM-50B	606A-C15	28480	GENERATOR SIGNAL		3	1	18	17	051	A	0176
AN/GPM-50C	921A	33013	GENERATOR SIGNAL		3	1	18	17	051	A	0177
AN/GSH-13			SPECTRUM ANALYZER	65					059	C	3650
AN/GSH-15			SPECTRUM ANALYZER	65					059	C	3651
AN/GSM-13A	7659240	19200	ELECTRICAL CABLE TEST SET		39	28	26	27	077	B	0193
AN/GSM-161	0A2090	C9553	T S NOISE LOADING	58					034	C	0208
AN/GSM-161A	0A2090A	C9553	T S NOISE LOADING	58					034	C	0209
AN/GSM-45	8213077	19200	T S ELECTRICAL CABLE		39	28	26	27	077	B	0196
AN/GSM-64	U35A	03626	VOLTMETER DIGITAL	39					078	B	0199
AN/GSM-64A	34-2	03626	VOLTMETER DIGITAL	39					078	B	0200
AN/GSM-64B	8400-AEM	89536	VOLTMETER DIGITAL	39					078	B	0201
AN/PGM-1	EMTS-200	C2036	T S TELEGRAPH	35					067	B	0236
AN/PGM-1A	249	06053	T S TELEGRAPH	35					067	B	0237
AN/PGM-1B	KEC-775-D	D9043	T S TELEGRAPH	35					067	B	0238
AN/PPM-1	212A	28480	GENERATOR PULSE	4					050	A	0239
AN/PPM-1A	212A	28480	GENERATOR PULSE	4					050	A	3596
AN/PRM-1	90300-1	88869	RADIO T S	43					043	C	3597
AN/PRM-10		13094	TEST OSCILLATOR	18					106	A	0240
AN/PRM-15	282-76	82680	MULTIMETER		28	27			032	B	0241
AN/PSM-1			INSULATION T S	27					025	B	3554
AN/PSM-4	979	65092	MULTIMETER		28				032	B	0247
AN/PSM-4A		55026	MULTIMETER		28				032	B	0248
AN/PSM-4B	D-2667		MULTIMETER		28				032	B	0249
AN/PSM-4C		51820	MULTIMETER		28				032	B	0250
AN/PSM-4D	127160	19913	MULTIMETER		28				032	B	0251
AN/PSM-4E	PSM-4	12510	MULTIMETER		28				032	B	0252
AN/PSM-4F		12510	MULTIMETER		28				032	B	0253
AN/PSM-4G	11000-2		MULTIMETER		28				032	B	0258
AN/PSM-6		95325	MULTIMETER	28					032	B	0254
AN/PSM-6A		95325	MULTIMETER	28					032	B	0255
AN/PSM-6B	199-5002	95325	MULTIMETER	28					032	B	0246
AN/TSM-16		99395	METER FREQ		48	47			020	C	0277
AN/TSM-86	900-26600-01	83744	TELEPHONE T S	73					122	D	0287
AN/TSM-86A	900-26600-00	83744	SIGNALING TEST SET	73					122	D	2386
AN/UGM-1		96238	T S TELETYPEWRITER	33	35				066	B	0307
AN/UGM-5		06763	T S TELETYPEWRITER	34	35				067	B	0308
AN/UPM-100	365-1	66150	T S ELECTRICAL POWER	37					076	B	0336
AN/UPM-108	4153	28480	METER STANDING WAVE RATIO	69					063	C	1348
AN/UPM-110	LA18M	35225	ANALYZER SPECTRUM	68					061	C	0820
AN/UPM-15		58179	GENERATOR PULSE	4					050	A	0316
AN/UPM-15A	1-1997	15196	GENERATOR PULSE	4					050	A	0317

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP CODE LTR	TMDE IO NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4		
AN/UPM-58	SC-DL-169906	80063	ANALYZER SPECTRUM	68					061 C	0324
AN/JPM-84	8554L-H06 8552A	28480	ANALYZER SPECTRUM	68					061 C	0328
AN/UPM-84A	A152161	25778	ANALYZER SPECTRUM		68				061 C	0329
AN/UPM-93			T S ELECTRICAL POWER	37					076 B	0330
AN/UPM-93A/U			T S ELECTRICAL POWER	37					076 B	0331
AN/UPM-93C	15-001	24635	T S ELECTRICAL POWER	37					076 B	0332
AN/URM-103	SM-0-630500	82199	GENERATOR SIGNAL	3					051 A	0384
AN/URM-105			MULTIMETER	28					032 B	0385
AN/URM-105A		06833	MULTIMETER	28					032 B	0386
AN/URM-105C	B105	12510	MULTIMETER	28					032 B	0387
AN/URM-109	31-7-141	79300	GENERATOR SIGNAL	18					106 A	0388
AN/URM-110A			RADIO INTERFERENCE MEASURING SET		45				043 C	0381
AN/URM-120	SK13009-4	54778	WATTMETER	62					082 C	0391
AN/URM-127		51865	GENERATOR SIGNAL	1					006 A	0392
AN/URM-145	91CA	04901	VOLTMETER ELEC	40					079 B	0393
AN/URM-145A	991000	24635	VOLTMETER ELEC	40					079 B	0394
AN/URM-145B	MV828A	85711	VOLTMETER ELEC	40					079 B	0395
AN/URM-149	SM-0-630000	82199	GENERATOR SIGNAL		15	16			107 A	0396
AN/URM-155	411A-11025A	28480	VOLTMETER ELECTRONIC	37					076 B	0371
AN/URM-167	6151A	70998	T S RF POWER		62	63			040 C	0399
AN/URM-170	618C	28480	GENERATOR SIGNAL	6					053 A	0400
AN/URM-178	EMC-25P	18581	RADIO INTERFERENCE MEASURING SET		43	44			043 C	0402
AN/URM-180	333A	28480	INDICATOR DISTORTION	74					014 O	0403
AN/URM-181	202H	28480	GENERATOR SIGNAL	18					106 A	0404
AN/URM-182	4110-102	70998	T S RADIO FREQ POWER	61					040 C	0405
AN/URM-184	334A-C10-001	28480	DISTORTION ANALYZER	74					014 O	0406
AN/URM-184A	334-A01-C10	28480	ANALYZER DISTORTION	74					014 O	0407
AN/URM-258D	315	21900	GENERATOR SIGNAL		1	3			051 A	0341
AN/URM-25F	162-0-003	92428	GENERATOR SIGNAL		1	3			051 A	0342
AN/URM-25H	152-2-6-1	66150	GENERATOR SIGNAL		1	3			051 A	0343
AN/JRM-25J		26648	GENERATOR SIGNAL		1	3			051 A	0344
AN/URM-26	294	21900	GENERATOR SIGNAL	18					106 A	0345
AN/URM-26A	136015		GENERATOR SIGNAL	18					106 A	0346
AN/URM-26B	136015		GENERATOR SIGNAL	18					106 A	0347
AN/URM-32	SCL-1341	49673	METER FREQ		48	49			020 C	0348
AN/URM-32A		49673	METER FREQ		48	49			020 C	0349
AN/URM-43	61	70998	RF WATTMETER	61					040 C	0307
AN/URM-43A		51161	PF WATTMETER	61					040 C	0308
AN/URM-47A		88869	RADIO INTERFERENCE MEASURING SET		44	43			043 C	0352
AN/URM-47B	NM-30A	88869	RADIO INTERFERENCE MEASURING SET		44	43			043 C	0353
AN/URM-47C	218	06053	RADIO INTERFERENCE MEASURING SET		44	43			043 C	0354
AN/URM-48		15196	GENERATOR SIGNAL	18					106 A	0355
AN/URM-49		35225	GENERATOR SIGNAL		15	17			107 A	0356
AN/URM-49A	K0000Q149	35225	GENERATOR SIGNAL		15	17			107 A	0357
AN/JRM-501	NF-105	16665	MEASURING SET RADIO INTERFERENCE		43	44			043 C	0374
AN/URM-52	6188E106	28480	GENERATOR SIGNAL	6	12				053 A	0358
AN/URM-52A	6188-E-118	28480	GENERATOR SIGNAL	6	12				053 A	0359

J-75



## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GR LTR	TMDE IO NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	PARTIALLY COMPATIBLE NO.2	PARTIALLY COMPATIBLE NO.3	PARTIALLY COMPATIBLE NO.4			
AN/URM-528	C-674-100	02572	GENERATOR SIGNAL	6	12				053	A	0360
AN/URM-56	9008	01113	GENERATOR SIGNAL		15	16	17		107	A	0361
AN/URM-61A	C-0-153-03007	59180	GENERATOR SIGNAL	5	12	16			053	A	0362
AN/URM-64-1		76809	GENERATOR SIGNAL	16	15				107	A	0363
AN/URM-64-2		76809	GENERATOR SIGNAL	16	15				107	A	0364
AN/URM-64A-1	C-016-04001	03877	GENERATOR SIGNAL	16	15				107	A	0365
AN/URM-64A-2	C-0161-04001	03877	GENERATOR SIGNAL	16	15				107	A	0366
AN/URM-70		07450	GENERATOR SIGNAL	18					106	A	0367
AN/URM-79		56118	METER FREQ	48					020	C	0368
AN/URM-80		35225	METER FREQ		49	48			020	C	0369
AN/URM-81		35225	METER FREQ	49					020	C	0370
AN/URM-85		16665	RADIO INTERFERENCE MEASURING SET		43	44			043	C	0371
AN/URM-R5A		16665	RADIO INTERFERENCE MEASURING SET		43	44			043	C	0372
AN/JRM-86	67C	70998	WATTMETER	62	61				040	C	0373
AN/JRM-86A	6733-00	70998	WATTMETER	62	61				040	C	0374
AN/JRM-90	402-0-7046	83777	T S CAPACITANCE INDUCTANCE RESISTAN	25					024	B	0375
AN/JRM-91	TM-275	30040	METER FIELD STRENGTH		43	44			043	C	0376
AN/URM-93	245-A	04901	VOLTAGE STANDARD RADIO FREQ		3	18	17	1	051	A	0377
AN/JRM-93A	245-0	04901	VOLTAGE STANDARD RADIO FREQ		3	18	17	1	051	A	0378
AN/JRM-988	430CW/477	28480	WATTMETER	63					040	C	0380
AN/USH-10	651A	80138	ANALYZER SET VIBRATION		87				004	E	0410
AN/USM-108	180A	28569	GENERATOR TIME MARK		2				047	A	0440
AN/USM-108B		28569	GENERATOR TIME MARK		2				047	A	0441
AN/USM-123	269	55026	VOLT-OHM-AMMETER		28				032	B	0451
AN/USM-159	K50110500	35225	METER FREQ		48	49	50	51	020	C	0450
AN/USM-159A	K50110200	35225	METER FREQ		48	49	50	51	020	C	0451
AN/USM-161	457	11332	T S RADIO FREQ POWER		61	63			040	C	0452
AN/USM-171		53346	IN CIRCUIT SEMICONDUCTOR TESTER	94					045	E	0455
AN/USM-181	3550A	28480	T S TELEPHONE	81	82				071	O	0456
AN/USM-181B	3550B-C15	28480	T S TELEPHONE	81	82				071	O	0456
AN/USM-183	412A	28480	MULTIMETER	28					032	B	0464
AN/USM-189	630A	60741	MULTIMETER		28				032	B	0464
AN/USM-190	620AR-H01	28480	GENERATOR SIGNAL	7	12				053	A	0455
AN/USM-193	431B	28480	RADIO FREQUENCY POWER T S	63					041	C	0467
AN/USM-203	912-423	01113	GENERATOR SWEEP SIGNAL	22	20				109	A	0467
AN/USM-203A	200-441	23042	GENERATOR SWEEP SIGNAL	22	20				109	A	0458
AN/USM-205	650A	28480	GENERATOR SIGNAL		1	3			006	A	0459
AN/USM-205A	6205-1	25778	GENERATOR SIGNAL		1	3			006	A	0470
AN/USM-206	2454A	93346	T S SEMICONDUCTOR DEVICE	94					045	E	0472
AN/USM-206A	902-470	28569	T S SEMICONDUCTOR DEVICE	94					045	E	0473
AN/USM-210	260	55026	MULTIMETER		28				032	B	1335
AN/USM-212	758-0047-001	13499	GENERATOR SIGNAL		1	3			051	A	0476
AN/USM-213	8614A	28480	GENERATOR SIGNAL	16	15				107	A	0477
AN/USM-213A	8614B	28480	GENERATOR SIGNAL	16	15				107	A	0478
AN/USM-220	SM2000	04423	GENERATOR SIGNAL	22					109	A	0479
AN/USM-221	SM2000	04423	GENERATOR SIGNAL	79	22				109	A	0480
AN/USM-222	SM2000	04423	GENERATOR SIGNAL	22	79	21			109	A	0481

## PART II TMOE CROSS-REFERENCE LIST

06/22/73

US ARMY GENERAL PURPOSE TMOE TO DTS ETC SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GP LTP	TMOE ID NO.
				FUNCTIONALLY COMPARATIBLE NO.	PARTIALLY COMPARATIBLE NO.1	NO.2	NO.3	NO.4			
AN/USM-223		28569	MULTIMETER		28				032	B	0482
AN/USM-224	3407A	28480	RMS VOLTMETER	41					080	B	0483
AN/USM-227	N-F-157	03782	MEASURING SET POWER DENSITY	45	46				043	C	0484
AN/USM-251	1209C	24655	GENERATOR SIGNAL		15	16	17	18	107	A	0758
AN/USM-252	1215C	24655	GENERATOR SIGNAL	18					106	A	0487
AN/USM-253	12188	24655	GENERATOR SIGNAL	1					006	A	0488
AN/USM-255	792A	72314	GENERATOR SIGNAL	4					050	A	0490
AN/USM-256	791A	72314	GENERATOR SIGNAL	2					054	A	0491
AN/USM-259	331A	28480	ANALYZER DISTORTION	74					014	D	0492
AN/USM-260	431C	28480	T S RADIO FREQ ROWER	63	61				041	C	0493
AN/USM-261	415E-E07	28480	INDICATOR STANDING WAVE RATIO	69					063	C	0494
AN/USM-262	560T010-12	33441	AMMETER		23	24	28		001	B	0495
AN/USM-263	300	11837	BRIDGE VOLTAGE RESISTANCE	25					008	B	0496
AN/USM-265	400EL02	28480	VOLTMETER ELEC	37	41				076	B	0497
AN/USM-269	1310-A	24655	GENERATOR SIGNAL	1	3	2			006	A	0498
AN/USM-271	184	80009	GENERATOR ELEC MARKER	2	4				050	A	0500
AN/USM-272	191	80009	GENERATOR SIGNAL		1	3	17	18	051	A	0501
AN/USM-274	220	18786	GENERATOR SWEEP	21					049	A	0503
AN/USM-275	90651	76487	METER GRID DIR		48	49			020	C	0504
AN/USM-298	43	70998	T S RADIO FREQ ROWER		62				082	C	0512
AN/USM-303	300A	13913	MULTIMETER	29					032	B	0513
AN/USM-303A	3004A	13913	MULTIMETER	29					032	B	0514
AN/USM-307(V)		28480	ANALYZER NETWORK	68					062	C	0517
AN/USM-307(V)1	8417A-E14	28480	ANALYZER NETWORK	68					062	C	0518
AN/USM-308(V)1	86908-E75	28480	GENERATOR SWEEP	21					049	A	0519
AN/USM-312	1362	24655	GENERATOR SIGNAL		15	17	18		107	A	0522
AN/USM-313	1211C	24655	GENERATOR SIGNAL	18	17	3			106	A	0523
AN/USM-315	8616A	28480	SIGNAL GENERATOR	12	5	6			053	A	0527
AN/USM-319A	269-2	55026	MULTIMETER DIGITAL		29				032	B	3718
AN/USM-322(V)1	219L	77327	DETECTOR STANDING WAVE	69					063	C	0530
AN/USM-322(V)2	219	77327	DETECTOR STANDING WAVE	69					063	C	0531
AN/USM-322(V)3	219-HH	77327	DETECTOR STANDING WAVE	69					063	C	0532
AN/USM-33		65092	MULTITESTER		23				002	B	0414
AN/USM-343	3550A-C24	28480	T S TELEPHONE	81	82				071	D	0534
AN/USM-357	130	80009	METER INDUCTANCE AND CAPACITANCE	25					011	B	0536
AN/USM-358	106	80009	GENERATOR SIGNAL	2					054	A	0537
AN/USM-359	115	80009	PULSE GENERATOR	4					050	A	3617
AN/USM-365(V)1	77068/ORT14	28480	RECORDER THERMAL OSCILLOGRAPH	92	91				036	E	0539
AN/USM-366	491	80009	ANALYZER SPECTRUM	68	67				061	C	0540
AN/USM-37	415A	28480	MEASURING SET STANDING WAVE RATIO	69					063	C	0415
AN/USM-37A	415E	28480	MEASURING SET STANDING WAVE RATIO	69					063	C	0416
AN/USM-37B	809B	28480	MEASURING SET STANDING WAVE RATIO	69					063	C	0417
AN/USM-37C			MEASURING SET STANDING WAVE RATIO	69					063	C	0418
AN/USM-37D	415E-001	28480	MEASURING SET STANDING WAVE RATIO	69					063	C	0419
AN/USM-37E	236	77327	MEASURING SET STANDING WAVE RATIO	69					063	C	0420
AN/USM-374	111	80009	GENERATOR PULSE	4					050	A	0541
AN/USM-423	35508-H03	28480	TELEPHONE TEST SET	81	82				071	D	1787



## PART II TMOE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMOE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP CODE	LTR	TMOE IO NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	PARTIALLY COMPATIBLE NO.2	PARTIALLY COMPATIBLE NO.3	PARTIALLY COMPATIBLE NO.4			
AN/USM-424	3040A	28480	ANALYZER		65	66	67		059	C	1668
AN/USM-44		28480	GENERATOR SIGNAL	18					106	A	0421
AN/USM-44A	6080-E02	28480	GENERATOR SIGNAL	18					106	A	0422
AN/USM-44B	6080-E02	28480	GENERATOR SIGNAL	17					106	A	0423
AN/USM-46	BL-202-931	96795	OSCILLOGRAPH SET MAGNETIC	91					036	E	0425
AN/USM-47	6264	28480	GENERATOR SWEEP	21					049	A	1855
AN/USM-48	628A	28480	GENERATOR SIGNAL	9	12				053	E	0426
AN/USM-83		94987	WATTMETER CALORIMETRIC	42					010	C	0433
AN/USM-9R	801	89536	VOLTMETER ELEC	39	28	29			077	B	0437
BC-376		80063	GENERATOR SIGNAL	18		3			106	A	0546
CP-1100/U	5100B/51108	28480	COUNTER ELEC DIGITAL		1	3	17	18	051	A	0550
CP-1101/U	TTS58A	06819	COUNTER ELEC DIGITAL	76	82				023	O	0551
CV-3427(V)11/U	3730A-004	28480	DOWN CONVERTER RF TC IF	56					030	C	1676
DT-542/U	3703A	28480	DETECTOR SIGNAL DELAY	56					030	C	0561
DT-550/U	3703B	28480	DETECTOR SIGNAL DELAY	56					030	C	0562
F-1414/J	84458	28480	PRESELECTOR AUTOMATIC TRACKING	68	67				062	C	1692
FR-126/J	X5328	28480	WAVEMETER	53					020	C	0570
FR-146/J	N410A	C0929	WAVEMETER	52					020	C	0571
FR-194/J	H532A	28480	METER FREQ	53					020	C	0574
FR-205/J	128A	94668	METER FREQ		70				110	C	0575
FR-38A/J	5248	28480	FREQ METER	48					020	C	0564
FR-38D/J	109000	94033	METER FREQ	48					020	C	0565
FR-38E/J		00346	METER FREQ	48					020	C	0566
FR-4/U		56118	METER FREQ	48					020	C	0563
FR-91/U	FS-C-1733	16786	WAVEMETER	52					020	C	0569
I-129	71-1388	80063	WAVEMETER		48	49			020	C	0577
IO-2101/U	34750A	28480	R I MULTI METER DISPLAY	29					032	B	1439
IM-156-100BN-2		15859	OSCILLOGRAPH		91	92			036	E	1549
IM-157/U	415B	28480	STANDING WAVE RATIO INDICATOR	69					063	C	0591
IM-157B/U	415D	28480	INDICATOR STANDING WAVE RATIO	69					063	C	0593
IM-157C/U	H813A		STANDING WAVE RATIO INDICATOR	69					063	C	0594
IM-157E/U	227-0-S37	77327	STANDING WAVE RATIO INDICATOR	69					063	C	0595
IM-175/U	351	11332	STANDING WAVE RATIO INDICATOR	69					063	C	0596
IM-175B/U	351	11332	STANDING WAVE RATIO INDICATOR		69				063	C	0597
IP-1216(R)/GP	141T	28480	ANALYZER SPECTRUM DISPLAY SECTION	68	67				061	C	1699
IP-173/U	S8-B	03782	INDICATOR PANORAMIC	67	68				061	C	0598
IP-173A/U	S8-BA	03782	INDICATOR PANORAMIC	67	68				061	C	0599
IP-173B/J	S8-BA	03782	INDICATOR PANORAMIC	67	68				061	C	0600
IP-173C/U		03782	INDICATOR PANORAMIC	67	68				061	C	0582
IS-185	433	65092	VOLTMETER	37	28	29			076	B	0602
MD-913(R)/U	3702A	28480	ANALYZER MICROWAVE LINK	56					030	C	0646
ME-11/U	750-3	70998	WATTMETER RF	61					040	C	0648
ME-11A/U		91161	WATTMETER RF	61					040	C	0649
ME-118/J		02230	WATTMETER RF	61					040	C	0650
ME-11C/J		91161	WATTMETER RF	61					040	C	0651
ME-147/J	ESH	54085	VOLTMETER	37	28	29			076	B	0677
ME-153/U	1932-A	24655	INDICATOR DISTORTION	74					014	O	0678

## PART II TMOE CROSS-REFERENCE LIST

05/22/78

US ARMY GENERAL PURPOSE TMOE TO OTS ETC SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GR LTR	TMOE ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
ME-156/U	904	65092	AMMETER	23					001	8	1974
ME-161/U	801	89536	VOLTMETER DIFFERENTIAL		38				077	8	0679
ME-162/U	432	65092	WATTMETER	61					039	C	0680
ME-165/G	52-500	12991	STANDING WAVE RATIO POWER METER	62	69				063	C	0681
ME-202/U	803	89536	VOLTMETER ELEC	38	29	37			121	8	0682
ME-2028/U	8033	89536	VOLTMETER ELEC	38	29	37			121	8	0683
ME-22/PCM	5491	92161	METER DECIBEL	81	82				071	D	0653
ME-22A/PCM		92161	METER DECIBEL	81	82				071	D	0654
ME-221/J	622	65092	AMMETER		23				001	8	0684
ME-223/ARN-129	2023R	07342	VOLTMETER PHASE ANGLE	85					074	D	0685
ME-227/U	MV-17C	85711	VOLTMETER ELEC	39	28	29			077	8	0686
ME-227A/U	353	33430	VOLTMETER ELEC	39	28	29			077	8	0687
ME-254/J	590-41	73446	METER FLUTTER AND WOW	71					112	0	0689
ME-254A/U	FL-3D-1	83003	METER FLUTTER AND WOW	71					112	0	0690
ME-26/U	410A	28480	MULTIMETER	28	29	40			032	8	0655
ME-26A/J	410B	28480	MULTIMETER	28	29	40			032	8	0656
ME-268/U		51820	MULTIMETER	28	29	40			032	8	0657
ME-26C/J	260000	59395	MULTIMETER	28	29	40			032	8	0658
ME-260/J			MULTIMETER	28	29	40			032	8	0659
ME-263/J	4038	28480	VOLTMETER ELEC	37	81	82	28	29	076	8	0691
ME-262/J	305A	50423	VOLTMETER	28	37	29			076	8	0692
ME-264/U	300M	50423	VOLTMETER ELECTRONIC	28	29	37			076	8	3628
ME-295/U	1253	94668	VOLTMETER FREQ SELECTIVE	70	86				110	C	0693
ME-30/U	400C	28480	VOLTMETER ELEC	37	81	82	28	29	076	8	0650
ME-30A/U	400D	28480	VOLTMETER ELEC	37	81	82	28	29	076	8	0651
ME-308/J	513A	26687	VOLTMETER ELEC	37	81	82	28	29	076	8	0662
ME-30C	513A	26687	VOLTMETER	37	81	82	41		076	8	3622
ME-300/U	111A	35124	VOLTMETER ELEC	37	81	82	41		076	8	0653
ME-30E	998-101	12365	ELECTRONIC VOLTMETER	37	81	82	41		076	8	3623
ME-303A/U	410C	28480	VOLTMETER ELEC		40	28	29		032	8	0694
ME-318/J	3400A	28480	VOLTMETER ELEC	41	37				080	8	0695
ME-333/J	217A	16335	MULTIMETER		29	38	39		032	8	0696
ME-334/U	309-1	00638	VOLTMETER ELEC	37	29				076	8	0697
ME-336/J	332A	28480	INDICATOR DISTORTION	74					014	0	0698
ME-338/J	345	50423	MULTIMETER	29	28	39			032	8	0699
ME-339/J	415E	28480	INDICATOR STANDING WAVE RATIO	69					063	C	0700
ME-340/U	400EL/C02	28480	VOLTMETER ELEC	37	41				076	8	0701
ME-356/U	DR-1828	14140	METER AUDIO LEVEL		71	81	82		005	0	0702
ME-368/U	610	96332	CHMMETER		27	30	28	29	035	8	0703
ME-370/U	427A W/11075A	28480	MULTIMETER	29	28	39			032	8	0704
ME-419/U	270	55026	MULTIMETER ELEC		28	29	39		032	8	0705
ME-426/U	3406A	28480	T S BROAD BAND	40					079	8	2791
ME-441/U	432A	28480	METER POWER	63	62				041	C	0707
ME-444/J	320A	50423	VOLTMETER ELEC	37	29	41			076	8	0708
ME-448/U	428B	28480	AMMETER		28	29			002	8	3728
ME-450/U	260-6	16902	MULTIMETER	28	29	39			032	8	0709
ME-451/U	303A	94668	VOLTMETER ELEC	37	41				076	8	0710

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GP LTR	TMDE IO NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	PARTIALLY COMPATIBLE NO.2	PARTIALLY COMPATIBLE NO.3	PARTIALLY COMPATIBLE NO.4			
ME-452/U	12792 MOD 9	55026	AMMETER PORTABLE OC		29	28	24		003	B	0711
ME-459/U	400EL	28480	VOLTMETER ELEC	37	41				076	B	0712
ME-488/U	4283	28480	AMMETER OC CLIP-ON	23					002	B	2019
ME-489/U	749	65092	MULTIMETER	28	29	39			032	B	1368
ME-490/J	48(A3)	50319	METER PHASE JITTER	78	82				037	O	1629
ME-495/U	537A	28480	METER FREQ	53					020	C	1741
ME-498/U	34702A	28480	MULTIMETER	29	39				032	B	3565
ME-51/J	GS-15094	65092	T S FREQ COUNTER	63					041	C	0652
ME-56/TSM	337	96762	VOLTMETER ELEC	40					079	B	0665
ME-57/U		81865	METER MODULATION	57					031	C	0666
ME-57A/U		81865	METER MODULATION	57					031	C	0667
ME-57B/J			MODULATION METER	57					031	C	3624
ME-6/U	300A	50423	VOLTMETER ELEC	40	61				076	B	0647
ME-61/GRC		80063	METER FIELD STRENGTH	43					043	C	0658
ME-65/J	131-173	28569	AMMETER	23					001	B	3729
ME-65A/J	196645	65092	AMMETER	23					001	B	0669
ME-69/U	6151-000	70998	WATTMETER	61					040	C	3625
ME-71A/FCC	108A	94668	METER AUDIO LEVEL	81	82	37			005	O	0671
ME-71B/FCC	108A	94668	METER AUDIO LEVEL	81	82	37			005	O	0672
ME-71C/FCC	520J74	07450	METER AUDIO LEVEL	81	82	37			005	O	0673
ME-77			MULTITESTER	28	29	39			032	B	3626
ME-82/U	MM-265	65092	WATTMETER	61					040	C	0674
ME-87/U	280	65092	MULTIMETER	28	29	39			032	B	0676
ME-88/U	411A	28480	RF MILLIVOLTMETER	40					079	B	3682
MX-8364A/USM308	86908	28480	OSCILLATOR SWEEP	21					049	A	0756
O-1321/GSM	TM7794/4	09553	OSCILLATOR RF	58					034	C	1921
O-1637/U	E2M	04423	P I HEAD SWEEP GENERATOR		22	21			109	A	1901
O-1736/U	3736A	28480	PLUG IN DOWN CONVERTER OSCILLATOR	56					030	C	1677
O-450/U	200A8R	28480	OSCILLATOR AUDIO	1					006	A	3720
O-850/U	1302A	24655	OSCILLATOR	1					006	A	1831
PL-1178/U	3304A	28480	SWEEP/OFFSET PLUG-IN		2				047	A	0791
PL-1240A/USM308	8693B-H01	28480	GENERATOR RE PLUG-IN	21					049	A	1904
PL-1241A/USM308	8693B	28480	P I UNIT ELEC TEST EQUIP	20					052	A	0794
PL-1241B/USM308	8693B-001	28480	RF P I SWEEP GENERATOR	20					052	A	3590
PL-1242/USM-308	8699P	28480	OSCILLATOR SWEEP P I		21	22			049	A	0795
PL-1243/USM-308	8706A	28480	ELEC TEST EQUIP P I UNIT	21					049	A	0796
PL-1244/U	1402	27591	GENERATOR SIGNAL		58				055	A	1835
PL-1285/U	3305A	28480	SWEEP P I	19					081	A	0797
PL-1304/USM-308	8694B	28480	P I UNIT ELEC TEST EQUIP	21					049	A	0801
PL-1306A/U	8803A	28480	P I PREAMPLIFIER		91	92			036	E	3732
PL-1343/U	L6M	04423	P I HEAD SWEEP GENERATOR		22				108	A	0808
PL-1344/U	5265A	28480	VOLTMETER DIGITAL P I	29	39				078	B	0809
PL-1387/U	8556A	28480	ANALYZER SPECTRUM LF TUNING SECTION		19	65	66		081	A	2692
PL-1388/U	8552B/017	28480	ANALYZER SPECTRUM IF SECTION PI		67				061	C	1694
PL-1390/U	8801A	28480	P I PREAMPLIFIER LOW GAIN OC		91	92			036	E	1459
PL-1391/U	7L5	80009	SPECTRUM ANALYZER	68					059	C	1625
PL-1392/U	7L12	80009	SPECTRUM ANALYZER PLUG IN	68					061	C	1626

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYRE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GR CODE	LTR	TMDE ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
PL-1394/U	3705A	28480	DETECTOR DIFFERENTIAL PHASE PLUG IN		56				061	C	1673
PL-1399/U	85538	28480	ANALYZER SPECTRUM RF SECTION	67					061	C	1696
RL-1400/U	8555A	28480	SPECTRUM ANALYZER	68					062	C	3586
RL-1401/U	3738A	28480	PLUG IN DOWN CONVERTER OSCILLATOR		56				030	C	1678
PL-1405(V)11/U	3716A-004	28480	RASERAND TRANSMITTER		56				030	C	1675
R-2049(V)11/U	3702B	28480	RECEIVER 1F/8B		56				061	C	1672
RO-426/U	7418A	28480	OSCILLOGRAPHIC RECORDER	92	91				036	E	1547
RO-49/U	AW	72264	RECORDER MILLIAMMETER		91	92			064	E	0812
RO-189/G	RD2642-00	56795	OSCILLOGRAPH	92	91				036	E	0813
RO-425/J	322	28480	RECORDER DUAL CHANNEL	91	92				064	E	0815
RO-458V(11)U	70358	28480	RECORDER	98					084	E	3557
RO-460(V)11/U	7702B	28480	RECORDER DUAL CHANNEL	91	92				036	E	0816
SG-1018/U	J347A	28480	NOISE SOURCE	13					055	C	0892
SG-1023/U	209A	28480	OSCILLATOR	1					006	A	0893
SG-1038/U	3701A	28480	GENERATOR SIGNAL	18		3			106	A	0894
SG-1054/G	PG-303A	96238	GENERATOR PATTERN	34	35				067	B	0895
SG-106/J	105	80009	GENERATOR SQUARE WAVE	2					054	A	0838
SG-107/MSA-6	206A	28480	GENERATOR SIGNAL AUDIO	1					006	A	3659
SG-1105/U	8013B	28480	GENERATOR PULSE		4				050	A	2067
SG-1114/U	TM-7816	09553	GENERATOR INTERFERENCE	59					034	C	1923
SG-1114/J	TM-7816A	09553	TWELVE CHANNEL NOISE GENERATOR	59					034	C	1922
SG-1121(V)11/U	8620C	28480	SWEEP OSCILLATOR	21					049	A	3714
SG-1122/U	8443A	28480	TRACKING GENERATOR/COUNTER	64					056	C	3585
SG-1125/U	8444A	28480	GENERATOR TRACKING	64					056	C	1690
SG-1128/U	654A	28480	TEST OSCILLATOR	1					006	A	1858
SG-12/J		15196	GENERATOR SIGNAL	18	3				106	A	0822
SG-13/ARN		16636	GENERATOR SIGNAL	18					106	A	0823
SG-15/PCM	5490		GENERATOR SIGNAL	1					006	A	0824
SG-20/U	658	14140	SIGNAL GENERATOR		3	1			051	A	0825
SG-298/U	W-1	08775	GENERATOR SIGNAL	2					047	A	0839
SG-298A/U	180	21764	GENERATOR SIGNAL	2	1				047	A	0840
SG-299/J	802-296	28569	GENERATOR SIGNAL	2					054	A	0841
SG-2998/U	902-333	28569	GENERATOR SIGNAL	2					054	A	0842
SG-309/GRC-47	608C	28480	GENERATOR SIGNAL	18					106	A	0843
SG-321/U	5533	83563	GENERATOR SIGNAL	2	1				047	A	0844
SG-321A/U		80063	GENERATOR SIGNAL	2	1				047	A	0845
SG-321B/U		24635	GENERATOR SIGNAL	2	1				047	A	0846
SG-336/U	380-A	80138	GENERATOR SWEEP	22					108	A	0847
SG-337/J	51U-ARGON	80138	GENERATOR THERMAL NOISE		13				055	A	0848
SG-340A/U	612A	28480	GENERATOR SIGNAL		15	17	18		107	A	0849
SG-343/JPM-15A		15196	GENERATOR PULSE	4					050	A	0850
SG-366/U	5701	80138	GENERATOR PULSE		4	18			050	A	0851
SG-366A/U	50708	80138	GENERATOR PULSE		4	18			050	A	0852
SG-407/U	1000	80138	GENERATOR SWEEP		22	20	21		109	A	0853
SG-419/J	503	11332	GENERATOR THERMAL NOISE	13					055	A	0854
SG-42/JRM-18	1107A	24655	GENERATOR SIGNAL	1					006	A	0826
SG-4538/U	1390A	24655	GENERATOR THERMAL NOISE	14					055	A	1833

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GP LTR	TMOE ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	PARTIALLY COMPATIBLE NO.2	PARTIALLY COMPATIBLE NO.3	PARTIALLY COMPATIBLE NO.4			
SG-475/APS-94	100720	06344	OSCILLATOR PULSE DELAY	4					050	A	0855
SG-479/GRM-50	606A	28480	GENERATOR SIGNAL		3	1			051	A	0856
SG-510/J	201C	28480	OSCILLATOR AF	1					006	A	0857
SG-511/J	606A	28480	GENERATOR SIGNAL HF		3	1			051	A	0858
SG-5434/U	2048-H07	28480	GENERATOR SIGNAL	1					006	A	0859
SG-575/U	IF866A	80138	GENERATOR SWEEP		20	22			108	A	0861
SG-578/U	650A	28480	TEST OSCILLATOR	1					006	A	0862
SG-593/J	9003	01113	GENERATOR SWEEP		20	22			052	A	0863
SG-621/J	202C	28480	GENERATOR SIGNAL	1					006	A	0864
SG-638/UPM-10	15802	36004	GENERATOR PULSE	4					050	A	0827
SG-632/J	204801	28480	GENERATOR SIGNAL	1					006	A	0865
SG-632A/U	2048	28480	GENERATOR SIGNAL	1					006	A	0866
SG-632B/U	204302	28480	GENERATOR SIGNAL	1					006	A	0867
SG-676/G	1220-A5	24655	GENERATOR SIGNAL	6					053	A	0868
SG-677/U	BS-800H	23042	SWEEP GENERATOR		22				109	A	0869
SG-678/G	G347A	28480	NOISE SOURCE	13					055	A	3541
SG-681/U	866A	80138	GENERATOR SWEEP		20				052	A	0870
SG-688P/USM-219	SM-2000	04423	GENERATOR SIGNAL		22	21			052	A	0871
SG-69/PPM	212A	28480	GENERATOR PULSE	4					050	A	0818
SG-69A/PPM-1	212A	28480	GENERATOR PULSE	4					050	A	0830
SG-69B/PPM-1	212A	28480	GENERATOR PULSE	4					050	A	0831
SG-71/FCC	233A	28480	GENERATOR SIGNAL	1					006	A	0832
SG-71A/FCC	233A	28480	GENERATOR SIGNAL	1					006	A	0833
SG-71B/FCC	233A	28480	GENERATOR SIGNAL	1					006	A	0834
SG-71C/FCC	190	67116	GENERATOR SIGNAL	1					006	A	0835
SG-735/URM	8616A	28480	GENERATOR SIGNAL	21					049	A	3733
SG-747	3300A	28480	GENERATOR SIGNAL	2					047	A	0872
SG-763/J	652A	28480	GENERATOR SIGNAL	1					006	A	0873
SG-763A/U	652A-H02	28480	GENERATOR SIGNAL	1					006	A	0874
SG-769/U	111	23338	GENERATOR SIGNAL	2					047	A	0875
SG-770/U	241A	28480	OSCILLATOR PUSHBUTTON	1					006	A	0876
SG-772/G	105 MOD1498	80009	GENERATOR SIGNAL	2					054	A	0877
SG-827/U	13908	24655	GENERATOR RANDOM NOISE	14					055	A	1834
SG-837/J	1210C	24655	OSCILLATOR	1					006	A	1655
SG-867/U	470A-500	98329	GENERATOR SIGNAL	18					106	A	0880
SG-888/U	200-315	23042	GENERATOR SWEEP		22	20			109	A	0881
SG-92/U	110-A	80138	GENERATOR SWEEP		19	20	22		052	A	0836
SG-944/U	6208	28480	GENERATOR SIGNAL	7					053	A	0882
SG-969/U	608F	28480	VHF SIGNAL GENERATOR	18					106	A	0883
SG-97/FRC	614A	28480	GENERATOR SIGNAL	16	15				107	A	0837
SG-972/U	601	01113	GENERATOR SWEEP	22					108	A	0884
SG-975/U	32038	28480	GENERATOR SIGNAL	18					106	A	0885
SG-978/U	343A	28480	GENERATOR SOURCE	13					055	A	0886
SG-979/U	349A	28480	NOISE SOURCE	13					055	A	0887
SG-981/U	TTS39A-4	06819	GENERATOR TONE	1					006	A	0888
SG-984/J	6518002	28480	GENERATOR SIGNAL	1					006	A	0889
SG-987/U	6310RS1	03782	GENERATOR SWEEP	21					109	A	0890



## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY CODE	GP LTR	TMDE ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
SG-990/U	6940-H01	28480	GENERATOR SWEEP	21					049	A	0891
SG-996/J	3453	28480	NOISE SOUPSE	13					055	A	0471
T-1353(V)11/U	3710A-004	28480	IF 88 TPANSMITTEP		56				030	C	1674
TA-885/U	35558	28480	T S TELEPHONE	81	82				071	D	2357
TD-5033/USM	74-13A	30669	GENERATOR SWEEP	19					081	A	0948
TS-1060/GG	TDA-2NB	96238	T S TELETYPEWRITER	33	35				066	B	1127
TS-1060A/GG	TDA-2NB	96238	T S TELETYPEWRITER	33	35				066	B	1128
TS-1060B/GG	ASD-1COA	05729	T S TELETYPEWRITER	33	35				066	B	1129
TS-1100/U		94668	T S SEMICONDUCTOR DEVICE	94					045	E	1131
TS-1100A/U		93346	T S SEMICONDUCTOR DEVICE	94					045	E	1132
TS-118/AP		70998	T S WATTMETER	61					040	C	0960
TS-118A/AP	693011	70998	RADIO FREQ WATTMETER	61					040	C	0961
TS-125/AP		82057	T S RADIO FREQ POWER		63				040	C	0952
TS-1285/UPM-120	164FMN	94668	WATTMETER	62					082	C	1138
TS-140/PCM	5489	11975	T S TELEPHONE	81	82				071	D	0953
TS-15C/AP	S-01		FLUXMETER	89					021	E	0952
TS-1512, A, 8/GGM	DD-5/DAC-V	96238	T S TELETYPEWRITER	34	35				067	B	1141
TS-1830A/U	3024	28480	ANALYZER SPECTRUM		65	66			059	C	1156
TS-1830D/U	3024R	28480	ANALYZER SPECTRUM		65	66			059	C	1157
TS-1836/U	2193	94668	T S TPANSIATOR	94					045	E	1168
TS-1836A/U	219C	24624	T S TPANSIATOR	94					045	E	1169
TS-1836B/U	245MF	24624	T S SEMICONDUCTOR DEVICE	94					045	E	1170
TS-1836C/U		34639	T S SEMICONDUCTOR DEVICE	94					045	E	1171
TS-1836D/U		80058	T S SEMICONDUCTOR DEVICE	94					045	E	3716
TS-1860/UP		21900	METER FREQ		48	49	52	53	020	C	0982
TS-186F/UP	317-0	37093	METER FREQ		48	49	52	53	020	C	0983
TS-186F/UP	T-737-317-0	51865	METER FREQ		48	49	52	53	020	C	0984
TS-1871/FPN	LCA-1	06181	ANALYZER SPECTRUM	66					060	C	3737
TS-28/TG			T S TELETYPEWRITER	34					067	B	0950
TS-2086/U	TT-22	14558	T S TRANSISTOR	94					045	E	1183
TS-2255/G	7412	80257	T S TELETYPEWRITER	34	35				067	B	1187
TS-2256/G	DT-603	14031	T S TELETYPEWRITER	33	35				066	B	1188
TS-2333/USM	310A	28480	ANALYZER SPECTRUM	66					060	C	1192
TS-2393/G	RAC-7	96238	ANALYZER TELEDATA	33	35				066	B	1193
TS-2394/G	331AP	28480	ANALYZER DISTORTION	74					014	D	1194
TS-2395/G	3408	94668	ENVELOPE DELAY T S	75	82				016	D	1195
TS-2395A/G	340A	94668	ENVELOPE DELAY T S	75	82				016	D	1196
TS-2436/G	342A	28480	T S AMP	13					033	C	1197
TS-26/TSM			T S TELEPHONE	28	29	39			032	B	0953
TS-26A/TSM	121956	82066	T S TELEPHONE	28	29	39			032	B	0954
TS-26B/TSM		88562	T S TELEPHONE	28	29	39			032	B	0955
TS-2609/U	4110-000	70998	T S RADIO FREQ POWER	61					040	C	1199
TS-2609A/U	4110-000	70998	T S RADIO FREQ POWER	61					040	C	1200
TS-2669/GCM	490A	C3860	MEASURING SET ENVELOPE DELAY DISTOR	75	82				016	D	1206
TS-2669A/GCM	490B	C3860	MEASURING SET ENVELOPE DELAY DISTOR	75	82				016	D	1207
TS-2677/FRM	22821	50040	SOUND MEASURING SET	87					004	E	1208
TS-268/U	TMN-10PL	80077	T S CRYSTAL RECTIFIER	94					045	E	0988

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

JS ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP CODE	LTR	TMOF ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
TS-268A/U	C11603A	80077	T S CRYSTAL RECTIFIER	94					045	E	0989
TS-268B/U	C11603A	80077	T S CRYSTAL RECTIFIER	94					045	E	0990
TS-268C/U		74096	T S CRYSTAL RECTIFIER	94					045	E	0991
TS-268D/U	J-105	92854	T S CRYSTAL RECTIFIER	94					045	E	0992
TS-268E/U	TS-268	94518	T S CRYSTAL RECTIFIER	94					045	E	0993
TS-27/TSM	C166237	64959	T S TELEPHONE		73	28	81		032	B	0956
TS-27A/TSM	71-3002		T S TELEPHONE		73	28	81		032	B	0957
TS-27B/TSM	ETS-27B	00798	T S TELEPHONE		73	28	81		032	B	0958
TS-2843/U	8834B	89536	VOLTMETER	38	37	39	29		121	B	1210
TS-297/U		71440	MULTIMETER	28	29	39			032	B	0994
TS-3012/U	135	28480	RECORDER COORDINATE DATA		98				084	E	1518
TS-3066(V)12/U	312A	28480	SPECTRUM ANALYZER		70				110	C	1220
TS-3066(V)13/U	312B	28480	ANALYZER WAVE		70				110	C	3553
TS-312/FSM-1	200CR	28480	GENERATOR SIGNAL	1					006	A	0997
TS-312A/FSM-1	200CDR	28480	GENERATOR SIGNAL	1					006	A	0995
TS-312B/FSM-1	20-200	01486	GENERATOR SIGNAL	1					006	A	0996
TS-3150/U	RTAG/UR3R3	03782	ANALYZER SPECTRUM	66					060	C	1222
TS-3170A/U	360B	94668	ANALYZER SPECTRUM	66					060	C	3352
TS-3171/U	TTS-37B	06819	T S AUDIO	81	82				071	D	1225
TS-3176/USM-37B	TTS-26B	06819	T S PULSE SIGNALING	73					122	D	1226
TS-3178/U	J94002D(2D)	64959	T S TELEPHONE		73				122	B	1227
TS-3187/U	4917A	28480	LOCATOR CABLE FAULT		88				009	E	1228
TS-3221/U	63220	07239	T S NULL BALANCE EARTH TESTER	31					035	B	1237
TS-3237/U	725	06811	ANALYZER SPECTRUM	67	68				061	C	1238
TS-3329/U	236A	28480	T S TELEPHONE	1					006	A	1241
TS-3378/G	DMS303A	96238	ANALYZER DATA TELEGRAPH	33	35				066	B	2361
TS-340/U	182092	65092	VOLTMETER	39	29				076	B	0998
TS-3401/TSC-38B	577087-1	49556	T S VOICE FREQUENCY TONE GENERATOR	1					006	A	1242
TS-3478/U	1200	50572	T S MODEM	72					013	D	2390
TS-3483/U	TTS-4CR	06819	TRANSMISSION T S	81	82				071	D	1615
TS-352/U	972	65092	MULTIMETER	28	29	39			032	B	0999
TS-352B/U		77221	MULTIMETER	28	29	39			032	B	1000
TS-3606(V)11/U	4917F	28480	OPEN FAULT LOCATOR		88				009	E	1412
TS-3628(V)11/U	3580A	28480	SPECTRUM ANALYZER	65					059	C	1670
TS-3629/U	707B	27364	QUICK CHECK TEST SET	73					122	D	2385
TS-382/U	200C	28480	AUDIO OSCILLATOR	1					006	A	1001
TS-382A/U	200C	99872	GENERATOR SIGNAL	1					006	A	1002
TS-382B/U			GENERATOR SIGNAL	1					006	A	1003
TS-382C/U		99872	GENERATOR SIGNAL	1					006	A	1004
TS-382D/U		78796	GENERATOR SIGNAL	1					006	A	1005
TS-382E/U		82076	GENERATOR SIGNAL	1					006	A	1006
TS-383/GG	DX04	59433	T S TELETYPEWRITER	33	35				066	B	1007
TS-383A/GG	DXD4-DTS	59433	T S TELETYPEWRITER	33	35				066	B	1008
TS-383B/GG	BYD4/MU26	59433	T S TELETYPEWRITER	33	35				066	B	1009
TS-4038/U	D-0153-03006	11242	GENERATOR SIGNAL	5	12				107	A	1011
TS-403B/U	D-0153-03006	11242	GENERATOR SIGNAL	5	12				053	A	1010
TS-419/J	H-12		GENERATOR SIGNAL	16	15	5			107	A	1012

J-84



## PART II TMOE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMOE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP CODE	LTR	TMOE IO NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4			
TS-420/U	76A	64959	T S TELEPHONE		1				006	A	1013
TS-420A/U	76A	64959	T S TELEPHONE		1				006	A	1014
TS-420B/U	76C	64959	T S TELEPHONE		1				006	A	1015
TS-421/U	205AG	28480	GENERATOR SIGNAL	1					006	A	1016
TS-421A/U	205AG-H02	28480	GENERATOR SIGNAL	1					006	A	1017
TS-421B/U	2975M	28569	GENERATOR SIGNAL	1					006	A	1018
TS-421C/U	F370A	29805	GENERATOR SIGNAL	1					006	A	1019
TS-443/U	1	65092	VOLTMETER	39	29				077	8	1021
TS-452/U		50304	GENERATOR SIGNAL	20					052	A	1023
TS-452A/U		34184	GENERATOR SIGNAL	20					052	A	1024
TS-452B/U		36004	GENERATOR SIGNAL	20					052	A	1025
TS-452C/U		36004	GENERATOR SIGNAL	20					052	A	1026
TS-452D/U		36004	GENERATOR SIGNAL		17	18	20		052	A	1027
TS-452E/U			GENERATOR SIGNAL	20					052	A	1028
TS-497/URR			GENERATOR SIGNAL	18	17				106	A	1031
TS-497A/URR			GENERATOR SIGNAL	18	17				106	A	1032
TS-497B/URR			GENERATOR SIGNAL	18	17				106	A	1033
TS-497B/URR			GENERATOR SIGNAL	18	17				106	A	1034
TS-497B/URR	SM-3-334504	04423	GENERATOR SIGNAL	18	17				106	A	1034
TS-505/U	123		MULTIMETER		29	28	40		032	8	1035
TS-505A/U	PL 3000	77221	MULTIMETER		29	28	40		032	8	1036
TS-505B/U	D11700	94066	MULTIMETER		29	28	40		032	8	1037
TS-505C/U			MULTIMETER		29	28	40		032	8	1038
TS-505D/U			MULTIMETER		29	28	40		032	8	1039
TS-505E/U	E40-197/129	02581	MULTIMETER		29	28	40		032	8	1040
TS-559/FT	28	64959	TRANSMISSION MEASURING SET	81	82				071	O	1044
TS-559A	2807	14140	TRANSMISSION MEASURING SET	81	82				071	O	1045
TS-559B	34B	14140	TRANSMISSION MEASURING SET	81	82				071	O	1046
TS-559C	34C	14140	TRANSMISSION MEASURING SET	81	82				071	O	1047
TS-559D	T335-TS-559	51865	TRANSMISSION MEASURING SET	81	82				071	O	0734
TS-559E	2020-3A	13175	TRANSMISSION MEASURING SET	81	82				071	O	1049
TS-563A/FT	A1AW	64959	T S WIRING	24					003	8	1050
TS-569/FT	30A	64959	T S TELEPHONE	81	82				071	O	1051
TS-583/U	210A	28480	GENERATOR SIGNAL	2					054	A	3636
TS-583A/U	E-136204	35225	GENERATOR SIGNAL	2					054	A	3637
TS-584B/U	AW SERIES 400	72264	MILLIAMMETER RECORDER	91	92				064	E	1052
TS-592/UPM-15	382663F		GENERATOR PULSE	4					050	A	1058
TS-592A/UPM-15	AS1018	88585	GENERATOR PULSE	4					050	A	1059
TS-611C/FG	GA-11672	64959	TELETYPEWRITER T S	33					066	8	3558
TS-611C/U	GA-11672	64959	T S TELETYPEWRITER	33					066	8	3653
TS-615/J	736A	24655	ANALYZER SOUND	65					059	C	1060
TS-615A/U	300A	28480	ANALYZER SPECTRUM	65					059	C	1061
TS-615B/J	300A	28480	ANALYZER SPECTRUM	65					059	C	1062
TS-617/U	160A	04901	METER Q	93					042	E	1063
TS-617B/J	TS617	51865	METER Q	93					042	E	1064
TS-617C/U		51865	Q METER	93					042	E	1065
TS-622/U	P-12651	94486	GENERATOR SIGNAL	68					062	C	1066
TS-622A/U	135-0-0500	77327	GENERATOR SIGNAL	68					062	C	1073

JS ARMY GENERAL PURRJOSE T4DE TD DTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)					FAMILY GP CODE	LTR	TMOE IO NO.
				FUNCTIONALLY COMPATIBLE							
				NO.	NO.1	NO.2	NO.3	NO.4			
TS-629/U	920	14140	AUDIO LEVEL TEST PANEL	B1					005	O	1058
TS-629A/U		50304	AUDIO LEVEL TEST PANEL	B1					005	D	1059
TS-629B/U		14140	AUDIO LEVEL TEST PANEL	B1					005	D	3736
TS-629C/U		53527	AUDIO LEVEL TEST PANEL	B1					005	D	1070
TS-629D/U	TP-924	14140	AUDIO LEVEL TEST PANEL	B1					005	D	1071
TS-629E/U	0211A03	25572	AUDIO LEVEL TEST PANEL	B1					005	D	1072
TS-657/FG	119A	64959	T S TELETYPEWRITER	35	33	34			067	B	3654
TS-658(U)/UG	ED-51-DT	59433	T S TELETYPEWRITER	34	35				067	B	3638
TS-659(U)/UG	ED-5B-ME	59433	T S TELETYPEWRITER	35	33	34			067	B	3639
TS-660/UG	161A1	64959	T S TELETYPEWRITER	33	35				067	B	3655
TS-716/U	224	02230	T S TELEPHONE	B1	82				071	D	1091
TS-723/J	330A	28480	ANALYZER SPECTRUM	74					014	D	1092
TS-723A/U	330B	28480	ANALYZER SPECTRUM	74					014	O	1093
TS-723B/U	36A	14140	ANALYZER SPECTRUM	74					014	D	1094
TS-723C/U	10000	99395	ANALYZER SPECTRUM	74					014	D	1095
TS-723D/U	10000	99395	ANALYZER SPECTRUM	74					014	O	1096
TS-730/URM	57-560-1	01723	BRIDGE SUMMATION	61					040	C	1097
TS-762/TC	NUS-2120	14140	T S AUDIO	B1	82				071	O	1100
TS-785/GG	X75041A	64959	T S TELETYPEWRITER	33	35				066	B	1104
TS-785A/GG	GA-10767	64959	T S TELETYPEWRITER	33	35				066	B	1105
TS-799/UGM-1		96238	T S TELETYPEWRITER	34					067	B	1106
TS-800/UGM-1		96238	T S TELETYPEWRITER	33					066	B	1107
TS-805/U	631-A	24655	STROBOSCOPE		95				065	E	1108
TS-805A/U	631-BL	24655	STROBOSCOPE		95				065	E	1109
TS-805B/U	510AL	83490	STROBOSCOPE		95				065	E	1110
TS-805C/U	451-AL	00708	STROBOSCOPE		95				065	E	1111
TS-805D/U	510-B	83490	STROBOSCOPE		95				065	E	1112
TS-806/U	441	80740	TACHOMETER ELEC	32					117	B	1113
TS-816/U	KS-14103	64959	T S TELEPHONE	28	29				118	B	1115
TS-903/G	I-142	90649	T S TELEPHONE	B1					122	O	1117
TS-917/GG	TTA-2	96238	T S TELETYPEWRITER	33	35				066	B	1119
TS-917A/GG		96238	T S TELETYPEWRITER	33	35				066	B	1120
TTU-27/E	F5000	84997	T S TACHOMETER		32				117	B	1257
TV-13/U	K-100	82199	T S ELECTRON TUBE	36					072	B	1255
TV-13A/I	K-200	82199	T S ELECTRON TUBE	36					072	B	1256
TV-2/U		60741	T S ELECTRON TUBE	36					072	B	1258
TV-2A/J			T S ELECTRON TUBE	36					072	B	1259
TV-2B/U			T S ELECTRON TUBE	36					072	B	1260
TV-2C/U			T S ELECTRON TUBE	36					072	B	1261
TV-6/U	602	86270	T S ELECTRON TUBE	36					072	B	1262
TV-7/U		28569	T S ELECTRON TUBE	36					072	B	1263
TV-70/U		00641	T S ELECTRON TUBE	36					072	B	1264
ZM-11/U	712	13259	BRIDGE CAPACITANCE INDUCTANCE RESIS	25					011	B	1276
ZM-11A/J			BRIDGE CAPACITANCE INDUCTANCE RESIS	25					011	B	1277
ZM-11B/J		12019	BRIDGE CAPACITANCE INDUCTANCE RESIS	25					011	B	1278
ZM-21A/J	5G1000	66150	OHMMETER	26					025	B	1280
ZM-21B/U	A9B400C20	66150	OHMMETER	26					025	B	1281

## PART II TMDE CROSS-REFERENCE LIST

06/22/78

US ARMY GENERAL PURPOSE TMDE TO OTS ETE SPECIFICATION

TYPE DESIGNATOR	MFR. MODEL NO.	MFR. CODE	NOMENCLATURE	SPECIFICATION NUMBER(S)				FAMILY GP CODE LTR	TMDE ID NO.
				FUNCTIONALLY COMPATIBLE NO.	PARTIALLY COMPATIBLE NO.1	NO.2	NO.3	NO.4	
ZM-3/U		54294	T S CAPACITOR	25					011 B 1271
ZM-3A/U		77569	ANALYZER CAPACITOR	25					011 B 1272
ZM-4/U	5300	31922	BRIDGE RESISTANCE	25					008 B 1273
ZM-4A/U	301SL	66150	BRIDGE RESISTANCE	25					008 B 1274
ZM-4B/U		66150	BRIDGE RESISTANCE	25					008 B 1275
ZM-54/U	LRQ-1	05721	DHMMETER		28	30	27		035 B 1282
ZM-61/U	250B	28480	BRIDGE CAPACITANCE INDUCTANCE RESIS	25					008 B 1284
ZM-6B/U	DSB-5C-4R	88869	BRIDGE IMPEDANCE	25					008 B 1285
ZM-69	1650-9701	24655	BRIDGE IMPEDANCE	25					008 B 3630
ZM-69A	1650-9702	24655	BRIDGE IMPEDANCE	25					008 B 3631
ZM-70/U	2507E	11837	BRIDGE CAPACITANCE INDUCTANCE RESIS	25					008 B 1286
ZM-71/U	4260A	28480	BRIDGE IMPEDANCE	25					008 B 1287
ZM-74/U	4800A	28480	METER VECTOR IMPEDANCE	83					073 D 1489



58227